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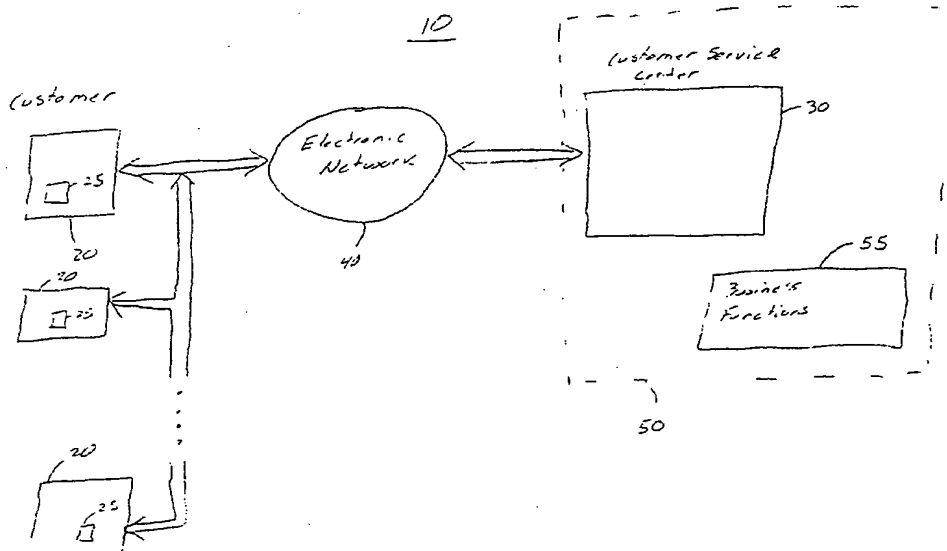
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(54) Title: **SYSTEM WITH MULTI-MEDIA REAL-TIME QUEUE MONITOR**



(57) Abstract: Methods and apparatus for handling customer interaction requests transmitted to a business by a wide variety of electronic means, including telephone, e-mail, and interactive Web sites. A system (10) that includes one or more customers (20) desiring to communicate with a business (50). These businesses may have one or more business functions (55) and a customer service center (30) for handling requests. Customer interaction request may be queued in one or more queues (180) at a customer service center until a customer service representative is available. The customer interaction request queues may be monitored, controlled and modified in real time. Also provided are a plurality of customer interaction requests features.

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1 **TITLE: SYSTEM WITH MULTI-MEDIA REAL-TIME QUEUE MONITOR**

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II. FIELD

The present invention relates to methods of handling electronic customer contacts, and more particularly, but not by way of limitation, to methods and apparatus for handling
11 customer interactions with customer service centers, wherein the customer interaction may be initiated via a wide variety of electronic media and formats.

III. BACKGROUND

Just a decade ago, most interactions between a business and its customers were via face-to-face meetings between customers and a business representative, over the
16 telephone, or through the mail. As the telephone became a preferred media, automatic call distribution centers (ACDs) were developed to handle large amounts of telephone calls by placing telephone calls in a queue where the calls were held until a customer service representative was available to handle a particular call. Telephone calls to a business with an ACD system are usually handled on a First-In First-Out (FIFO) basis.

21 Today's current electronic communication technologies have greatly increased the means by which a business and its customers may interact. For example, many businesses allow customers to submit requests via facsimile (fax), over internet-based technologies (e.g., via e-mail), via video, or via enhanced telephone technologies (e.g., interactive

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1 voice or touch-tone response systems). Attempts have been made to establish customer
call centers where customer interactions via all of these types of media can be processed
in a systematic way. For example, borrowing from the ACD concept, customer requests
via all of these types of media may be placed in a plurality of queues corresponding to the
type of medium, where they can be handled by the next available customer service
6 representative with access to that particular medium. Additionally, instead of utilizing a
pure FIFO rule for selecting the next customer request to be handled, each request may be
assigned a queue priority based upon a set of business rules, criteria or factors. Calls are
then assigned to the next available customer service representative based, at least in part,
upon that queue priority.

11 However, these systems have their limitations. For example, after a customer
interaction request has been given a queue priority according to certain, predefined,
business rules, information regarding the request may be located or developed that would
have led to a different queue priority being assigned. However, no known systems have
mechanisms that allow for "reprioritization" based upon this information. Moreover, no
16 systems allow for such reprioritization of queue priority for a plurality of queues, wherein
each queue may have customer interaction requests from a variety of communications
media. Accordingly, there exists a need for systems that address these limitations. Such
systems will allow businesses to provide greater customer service to existing and new
customers, thereby increasing customer satisfaction and loyalty and resulting in greater
21 profits.

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IV. SUMMARY

Methods and apparatus are proposed for handling customer interaction requests transmitted to a business by a wide variety of electronic means, including telephone, e-mail, and interactive Web sites. Customer interaction requests may be queued in one or more queues of a customer service system until a customer service representative is available. The customer interaction request queues may be monitored, controlled and modified in real time. Also provided are a plurality of customer interaction request features.

V. BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is overall functional block diagram of a system embodying the present invention.

Figure 2 is a more detailed functional block diagram of the system of Figure 1.

Figure 3 is a flow chart illustrating an operation of one embodiment of the present invention.

Figure 4 is a GUI that may be displayed by a supervisor.

Figures 5A-D are GUIs that may be displayed by a supervisor.

Figures 6A-P are GUIs that may be displayed by a customer, customer service representative, or supervisor.

Figures 7A-F are GUIs that may be displayed by a customer, customer service representative, or supervisor.

Figures 8A-B are GUIs that may be displayed by a customer, customer service representative, or supervisor.

Figure 9 is an exemplary skills set table.

1 Figure 10 is a flow chart illustrating workflow with respect to e-mails according to one embodiment of the present invention.

 Figure 11 is a functional block diagram illustrating several aspects of the present invention.

VI. DETAILED DESCRIPTION

A. System Description

6 Figure 1 is a functional block diagram of a system 10 embodying the present invention. System 10 comprises one or more customers 20 desiring to communicate with a business 50 (business 50 may also be, e.g., a government organization or any other entity having customers). Business 50 may have one or more business functions 55 and a
11 customer service center 30 for handling some or all of the communications with customers 20. Customers 20 and the customer service center 30 may be operably connected via an electronic network 40 which may comprise one or more public switched telephone networks, cellular telephone networks, private branch exchange networks, computer networks, satellite networks, internets (including the World Wide Web),
16 intranets, or extranets. Customers 20 and customer service center 30 may communicate through the electronic network 40 by a variety of means or media, including e-mail, telephone, fax, video, web-based communications, or other electronic means. Communications with customer service center 30 may be inbound or outbound.

 A customer 20 may be equipped with a variety of electronic communications
21 devices 25, including a telephone, computer with modem, facsimile machine, printer, and/or video equipment. Many interactions by customer 20 with computer service center 30 may be through the customer's computer. The customer's computer may be any conventional processor-based digital computer. The customer's computer may have a

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1 graphic user interface (GUI) and may run a variety of applications including an e-mail
application (e.g., Microsoft Outlook) and a browser application (e.g., Netscape or Internet
Explorer).

In Figure 2, there is shown a more detailed functional block diagram of the
customer service center 30 of one embodiment of the present invention. Customer service
6 center 30 may comprise a communications gateway 60, storage 80, one or more customer
service representative terminals 90, one or more supervisors terminals 100, and one or
more servers 110. These components of system 10 may be operably connected by one or
more information links (collectively numbered as 120). Note that the information links
120 of Figure 2 are illustrative only and do not define the manner in which the various
11 components of customer service center 30 may be operably connected. One skilled in the
art will recognize the many different ways in which these elements may be operably
connected. The components of customer service center 30 need not be located in the
same geographic area.

The communications gateway 60 may comprise a plurality N of media modules
16 (labeled 70-1 through 70-N) for interfacing to and handling inbound and outbound
communications. For example, in Figure 2, there are shown interfaces for web 70-1,
telephone 70-2, video 70-(N-1), and fax 70-N media modules for handling those types of
respective inbound and outbound communications. Web media module 70-1 may handle
a variety of types of customer interaction requests including, but not limited to, e-mails,
21 Web callback requests, chat, voice over net (VON), Web page collaboration, and
interactive Web requests. Telephone media module 70-2 may handle, among other types
of interactions, conventional telephone calls and voice messages (may sometimes be
referred to as "voice mails"). Video media module 70-(N-1) may handle video

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1 communications, and fax media module 70-N may handle fax-type interactions. One skilled in the art will recognize that system 10 may support a variety of different media modules delivering customer messages and that a particular media module may be configured to handle interaction from more than one medium.

Storage 80 may comprise a plurality of databases 130 for storing, among other things, customer information. Storage 80 may also be used to store some or all of the software and applications included in system 10.

Customer service representative terminals 90 may comprise human operators or customer service representatives 210, screens 220 capable of displaying information in a graphical user interface (GUI) format, interaction devices 230 (such as a telephone, fax machine, video terminal, computer, or other devices capable of communicating electronically with customer 20 through network 40), and customer service representative software 200. Each customer service representative terminal 90 may have an associated skills set 95 (an example skill set table is shown in Figure 9). The skills set may determine which customer interaction requests that a particular customer service representative terminal 90 may be provided. For example, the skills set for a particular customer service representative may include information as to the customer service representative's media proficiency of capability (i.e., whether the customer service representative is capable of using one or more mediums), as well as other information used to determine whether the customer service representative will handle the interaction request.

Supervisor terminals 100 may comprise human operators or supervisors 210, screens 220 capable of displaying information in a GUI format, interaction devices 230 and supervisory software 190.

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1 Servers 110 may comprise business application software 140 that corresponds to
business function 55, and customer service center software 150 for handling customer 20
interactions with customer service center 30. Customer service center software 150 may
comprise an integration toolkit 160 that provides an application programming interface
for the business application software 140. Customer service center software 150 may also
6 comprise a logic program engine 170, one or more queues 180, supervisory software 190,
and customer service agent software 200. (Some or all of the supervisory software 190
and customer service representative software 200 may also reside at the customer service
representative terminals 90 and the supervisor terminals 100, respectively. Supervisory
software 190 and customer service representative software 200 may be either client or
11 server applications.)

Queues 180 may queue one or more customer interaction requests until the request
may be handled by a customer service representative operating at his or her customer
service representative terminal 90. Queues 180 may be defined by business 50. For
example, queues 180 may be defined by the medium by which the customer interaction
16 requests are initiated (e.g., a first queue may have only telephone calls, a second queue
may have only e-mails and voice messages, etc.) or by the group of customer service
representatives that have access to the queue (e.g., customer service representatives
grouped according to similar skills sets 95). A unified queue 180 may contain customer
interaction requests from multiple media, preferably every type of media supported by
21 system 10.

Engine 170 may be a rules engine and may determine which queue 180 a
particular customer interaction request is to be placed on (e.g., by the type of medium
used to submit the interaction request or by the identity of the customer 20) and the queue

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1 priority given to a particular customer interaction request. The engine 170 may determine
a customer interaction request queue priority by applying one or more rules, criteria,
and/or factors defined by business 50 to customer identification or history or other
relevant information that may be stored in database 130 or available elsewhere in system
10. The business rules, criteria, and factors may include, for example, the customer's
6 value to business 50, the complexity of the request, the type of medium by which the
request is received, the expected customer service representative response, or the type of
medium that the customer has requested or prefers. The customer information stored in
database 130 may be any type of information associated with the customer that is of
relevance to business 50.

11 Supervisory software 190 and customer service representative software 200 may
cause one or more GUIs to be displayed at the supervisor terminals 100 and customer
service representative terminals 90, respectively. Customer service representative GUIs
allow customer service representatives to perform various functions associated with
customer interaction requests. Supervisor GUIs allow supervisors to review the status of
16 one or more customer interaction requests and control how and when the requests are
responded to by the customer service representatives 90. The supervisor GUIs also allow
supervisors to review and control one or more queues 180. For example, as described in
more detail below, a supervisor may elect to transfer a customer interaction request from
one queue to another because another customer service representative terminal 90 is better
21 qualified to handle the call.

B. Overview of Customer Interaction Requests

Customer interactions with customer service center 30 may be categorized by the type of response provided by the customer service center 30. The interactions may be (1) of the type where the response can be automated (i.e., the customer may be prompted to enter information until an automatic response to the customer's request can be formulated by system 10) or (2) of the type that should be handled by a human operator 210 located at a customer service representative terminal 90. Automated or "self-service" type responses may include interactive voice responses, fax-on-demand, and certain interactive Web applications (such as automated e-mail responses). Interactions that usually require access to a customer service representative include conventional telephone calls, e-mails, faxes, Web callbacks, chat, voice-over-net, video, voice-messaging, and Web collaboration. Tables 1 and 2 illustrates some of the types of customer interactions requests available in system 10.

TABLE 1 - Exemplary Customer Interaction Requests - Automated Responses

Type	Description	Response
Telephone call	Customer initiates a conventional telephone call and requests an interactive voice response session.	Customer interacts with automated system. No customer service representative is needed unless customer opts out of automated system.
Certain interactive Web applications	Customer accesses the businesses Web site and then accesses information available on one or more pages of the Web site.	Customer interacts with automated system (i.e., Web page options or links). No customer service representative is needed unless customer opts out of automated system.

TABLE 1 - Exemplary Customer Interaction Requests - Automated Responses

1	E-mail (may be referred to as "E-mail-on-demand")	Customer initiates a request via any of a variety of media and request that an e-mail be sent to the customer.	Customer interacts with automated system. No customer service representative is needed unless customer opts out of automated system. If the customer does not opt out, an e-mail is automatically sent to the customer. This e-mail may be followed up by an e-mail crafted by a customer service representative or some other media interaction.
6	Fax (may be referred to as "Fax-on-demand")	Customer initiates a request via any of a variety of media and request that a fax be sent to the customer.	Customer interacts with automated system. No customer service representative is needed unless customer opts out of automated system. If the customer does not opt out, a fax is automatically sent to the customer.

TABLE 2 - Exemplary Customer Interaction Requests - Responses Handled by Customer Service Representatives

Type	Description	Response
Telephone call	Customer initiates a conventional telephone call and requests to speak to a customer service representative.	A customer service representative will interact with the customer. If a customer service representative is not available, the telephone call will be queued until a customer service representative is available. The customer service representative will then converse with the customer over the telephone.
Voice message	Customer initiates call and if a customer service representative is not available or the customer otherwise wishes to leave a voice message rather than interact with a customer service representative, the customer selects option that allows customer to leave a voice message.	Customer voice message is queued until a customer service representative is available. When a customer service representative is available, the representative will listen to the voice message and respond appropriately.

TABLE 2 - Exemplary Customer Interaction Requests - Responses Handled by Customer Service Representatives

E-mail (generated from a Web page or otherwise)	Customer sends an e-mail to customer service center requesting a response.	A customer service representative will interact with the customer. The customer service representative will review the e-mail and formulate a response. If a customer service representative is not available, the e-mail will be queued until a customer service representative is available, at which time the customer service representative may read the e-mail and respond appropriately.
Video	Customer initiates a "video call" and requests to speak to a customer service representative.	A customer service representative will interact with the customer via a video link. If a customer service representative is not available, the video call will be queued until a customer service representative is available.
Web page callback	Customer selects an option on businesses Web site that customer would like to receive a callback (via some electronic medium).	Customer Web Page callback is queued until a customer service representative is available, at which time a customer service representative may callback the customer via the indicated medium. In an alternative embodiment, the customer may specify a time at which to be called back at which time, if a customer service representative is available, an outbound interaction is issued to the customer.
Web page chat	Customer selects an option on businesses Web site that customer would like to initiate a chat session with a customer service representative.	Each chat message transmitted by the customer is queued until a customer service representative is available. In one embodiment, the customer service representative that first interacts with the customer via the chat session will receive all future messages from the customer during a particular chat session.
Voice-over-net	Customer initiates a voice-over-net call and requests to speak to a voice customer service representative.	A customer service representative will interact with the customer. If a customer service representative is not available, the voice-over-net call will be queued until a customer service representative is available.

1 Tables 1 and 2 are exemplary only and one skilled in the art will recognize that
any of the media supported by system 10 may be (1) used by customer 20 to initiate a
customer interaction request, (2) used by customer service representative terminal 90 to
initiate a response. One skilled in the art will also recognize that any of the media
6 supported by system 10 may be used to provide an automated response to customer 20.

C. Method of Operation

Referring now to Figure 3, customers 20 and customer service center 30 may
interact as follows. (Figure 3 is but one embodiment of the present invention and the
11 actions listed in the blocks need not necessarily be performed in the order shown). At
block 300, customer 20 may initiate a customer interaction request by sending the request
via a certain medium (e.g., via e-mail) supported by system 10. The request is transmitted
to the customer service center 30 through network 40 and, at block 310, is received by the
appropriate media module 70 of communications gateway 60. At block 320, system 10
16 may then identify the customer by a variety of means, including conventional caller-ID
techniques, by assessing the address from which an e-mail is sent, or by prompting the
customer 20 to identify himself. If the customer 20 is identified, at block 330,
information related to that customer (e.g., amount of transactions with customer, credit
rating, etc., the type of electronic media that the customer is equipped to handle) may be
21 obtained from database 130. At block 340, the customer interaction request may be
evaluated by engine 170 according to a predefined set of business rules, criteria, and/or
factors. These business rules, criteria, and factors may include certain customer
information, the type of media that the interaction request is initiated from, and the type of

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1 response expected. For example, the importance or value of the customer 20 to business 50 may be determined and the customer 20 may be given a rating (e.g., preferred customer, etc.). The customer information accessed from database 130 and the customer value generated by engine 170 may be used in various making various decisions in system 10, as described below.

6 At block 350 of Figure 3, system 10 determines whether the customer interaction request is one that allows for an automated response, or whether system 10 has been configured such that a customer service representative should handle the interaction request. If the interaction requests allows for automated response, options (e.g., a menu of options that can be chosen by a touch tone phone) are presented to the customer at 11 block 360. At block 370, an option is also provided to the customer 20 to contact a customer service representative if the other options presented are not sufficient. Additionally and/or alternatively at block 370, customer 20 may chose an option that allows the customer 20 to place a request (e.g., a voice message) in a queue 180 where it can be attended to by a customer service representative terminal 90 at a later time. In this 16 latter case, the customer 20 may then exit the system 10 and await the response from the customer service representative terminal 90.

Turning now to block 380, system 10 executes the customer's request (by, e.g., booking a flight, providing requested information by e-mail, etc.). If the situation requires, automated responses that are to transmitted to a customer 20 may also queued in 21 an outbound queue until the automated response may be transmitted (e.g., if sufficient resources are not available, the automated response may be queued). At block 390, if the customer's interaction request has been completed, the customer database 130 may be

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1 updated and the interaction completed at block 410. At block 390, if the customer has further requests that need to be performed, operation is returned to block 360.

6 If, on the other hand, at block 350, the customer's interaction request is better handled by a customer service representative then, at block 420, the skills set table 95 may be accessed so that it may be determined whether a customer service representative terminal 90 is available that possesses the skills necessary to handle the customer's interaction request. If so, the interaction request is routed to that customer service representative terminal 90 at block 430 and operation proceeds as in blocks 440, 450, and 460. If, however, a qualified customer service representative terminal 90 is not available at block 420, the customer interaction request is given a queue priority by engine 170 and placed on one of a plurality of queues 180. As described above, the queue priority may be set according to rules determined by business 50 and the currently available customer information.

11 While a customer interaction request is pending in a queue 180, system 10 may provide the customer 20 with a variety of services, including music, news, the ability to enter more customer associated information, or silence. These services may be selectable by the customer 20 in the same manner that a customer 20 interacts with automated response portions of system 10. Several of these aspects of system 10 are illustrated in Figure 11.

16 While a customer interaction request is pending in a queue, system 10 may provide the customer 20 with a variety of services, including music, news, the ability to enter more customer associated information, or silence. These services may be selectable by the customer 20 in the same manner that a customer 20 interacts with automated response portions of system 10. Several of these aspects of system 10 are illustrated in Figure 11.

21 Information relevant to a customer interaction request may be continually updated while the interaction request is pending in a queue. For example, the customer 20 may choose to enter more information associated with the customer 20 while the customer's interaction request is pending in a queue, or system 10 may record information associated with the customer's activities while the customer's interaction request is in a queue (e.g.,

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1 whether the customer has selected to view another web site page, etc.). Information such
as queue position or remaining wait time may also be displayed or announced to the
customer.

Thus, at block 480, a supervisor terminal 100 with control access to queue 180
may be used to reprioritize the customer interaction request on the queue 180. The
6 reprioritization may, for example, be based upon an application of the business rules to
customer or business information that only becomes available after the customer
interaction request is originally placed on the queue 180. This occurs at block 490 where
the supervisor may change the priority of the customer interaction request on a queue or
even place the customer interaction request on a different queue. By allowing a
11 supervisor terminal 100 to change the queue priority of customer interaction requests in
real-time, the customer service center may operate more efficiently and provide greater
customer service.

D. Supervisor Operations

1. Status and Control Features

16 System 10 provides supervisor terminals 100 with a variety of status and control
features with respect to how and when customer interaction requests are handled by the
customer service representatives terminals 90. In Figure 4, there is shown a supervisor
queue manager window 2000 that may be displayed at supervisor terminals 100. The
21 queue manager window 2000 may be divided into a plurality of subwindows including an
actions window 2010, a queue window 2020, and a customer interaction request window
2030.

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1 The supervisor terminals 100 may use queue window 2020 to select one or more
of the queues 180 (including every queue by selecting "All Queues" in the example
window shown). This selection will cause the customer interaction requests on the
selected queue(s) to be displayed in the customer interaction request window 2030. In an
alternative embodiment, the contents of more than one queue may be displayed
6 simultaneously.

 The customer interaction requests are available for viewing by supervisor
terminals 100 the moment that they are placed in queue. The interaction requests may be
listed in customer interaction request window 2030 in an order or manner selected by the
supervisor (e.g., according to their original priority, according to the amount of time in the
11 queue, according to the value of the customer 20 to business 50, etc.). The information
displayed with respect to each customer interaction request displayed in window 2030
may include the customer's name, location, or other customer information stored in
database 130 or otherwise available in system 10. The information displayed with respect
to each customer interaction request in subwindow 2030 may also include information
16 relating to the particular customer interaction request, including the amount of time that
the request has been on the queue 180, whether the customer 20 is currently "on-line" and
waiting for a customer service representative (e.g., if customer 20 has left a voice
message, customer 20 may have exited system 10, but if customer 20 has initiated a
conventional telephone call, customer 20 may be waiting on the telephone for a response)
21 and an indication of the customer's value to business 50.

 In another window displayed at supervisor terminals 100 or in a subwindow of
window 2000, the following information may also be displayed:

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- 1 • The status of each customer service representative terminal 90 (e.g., whether the representative is logged in to the system, responding to a customer interaction request, time spent on various types of activities, etc.).
- The status of all or some of the customer representatives terminals 90 as a group (e.g., how many are logged in, how many are responding to a customer interaction
6 request).
- Average time calculations (e.g., average time a customer interaction response is in a queue, average time spent on a response).
- Whether a customer on a queue has terminated or abandoned the interaction request before interacting with a customer service representative terminal 90.

11 Displaying some or all of the information described above, may allow a supervisor to make informed decisions as to how and when particular customer interaction requests are handled.

 Action window 2010 allows the supervisor to perform one or more actions with respect to a selected queue 180 or a selected customer interaction request within a queue
16 180. For example, in Figure 4, the supervisor terminal 100 has the option of handling a certain customer interaction requests herself, dropping a customer interaction request from system 10, or issuing a message to the customer 20 (e.g., a request that the customer 20 be patient, etc.). The supervisor terminal 100 may also reprioritize a customer interaction request and/or transfer the request to a different queue or a different customer
21 service representative terminal 90. The supervisor terminal 100 may also attach instructions to a particular customer interaction request that informs a customer service representative how the particular request should be handled.

2. Customer Interaction Request Reports

Supervisory software 190 may allow supervisor terminals 100 to generate a variety of reports associated with customer interaction requests. For example, in Figures 5A and 5B, supervisor terminals 100 may generate a chart visually displaying in a chosen manner, the percentage of the types of interaction request received by customer service center 30 over a selected period of time.

C. Features

Some specific features of the present invention are described below. These features are exemplary only and not intended in a limiting sense.

1. Business Web Site

The present invention may be of particular benefit to a business 50 having a web site that allows customers to initiate interactions requests. Referring now to Figures 6A-x, a customer 20 may interact with the customer service center 30 of business 50 via the business' web site 1000 (shown in same Figures 6A-P is the web site 1000 of a fictitious business -- "Cyber-Trekking" -- offering fictitious products 1001 (e.g., a trip to "Racy Rome in 47 B.C.")). The business' web site 1000 may be displayed on a customer's computer having a GUI display and may be accessed through via a typical browser application (e.g., Microsoft Internet Explorer).

In Figure 6B, the customer 20 has selected one of the business' offered products (the trip to "Racy Rome in 47 B.C."), leading the customer 20 to another page in the customer's web site 1000. Here, the customer 20 may desire to learn more about the offered product or to purchase the offered product and, therefore, may wish to interact

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1 with a customer service representative of business 50 to do so. Customer 20 may then
select the customer interaction button 1010 (shown here as a "Cybercall" button) in a
conventional manner (e.g., using a "mouse" to "click" on the button 1010).

The customer interaction button 1010 may cause another page in the business' web site 1000 to be displayed, as shown in Figure 6C. This page may display selection
6 buttons 1020 corresponding to one or more of the types of media that a customer 20 may
use to interact with customer service center 30. For example, in Figure 6C, the customer
20 may select to interact with customer service center 30 via a telephone callback (also
referred to as "Web Page callback"), chat, voice-over net, or e-mail. Each of these media
will be discussed in turn below (various other types of media are, of course, contemplated
11 by system 10).

a. Web Page Callback

In Figure 6C, the customer 20 has selected (indicated by circle) to have the
customer service center 30 "call" her back (e.g., through a conventional telephone call, e-
16 mail, fax, etc.). At the customer service center 30, such a request will be recognized as
one that may be prioritized and placed in a queue 180. (As described above, the priority
of this callback request may be changed by a supervisor 100 monitoring queue 180).
Accordingly, in Figure 6D, system 10 may display to customer 20 the customer's position
in a queue 180 and the estimated time at which the customer will be called back. The
21 customer may also be given the option of requesting an even later time at which to be
called back by selecting button 1030. Figure 6L shows an alternative display that system
10 may provide to a customer 20 with a customer interaction request in a queue 180. The
display shown in Figure 6L gives the customer the option of canceling the request or

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1 rescheduling the request, as well as providing queue position, time on queue and
estimated remaining time on queue information.

Note that through conventional techniques, a customer 20 may be identified when
she accesses business' web site 1000. In such a case, the customer need not be prompted
to enter a telephone number (or other address, etc. at which to be contacted) at which to
6 receive the callback because a default telephone number may have been set.

Alternatively, the customer 20 may always be given the option of entering a callback
number.

Turning now to Figure 6E, there is shown a GUI window 1110 displayed at a
customer service representative terminal 90 that is associated with the customer's request
11 for a callback shown in Figures 6A-D. This GUI window 1110, however, is representative
of the GUI displayed at customer service representative terminal 90 for any type of
customer interaction request. GUI window 1110 may comprise a plurality of
subwindows, including a customer service representative status subwindow 1050 and a
customer interaction subwindow 1040. Each subwindow (as well as any window or
16 subwindow within system 10) may comprise one or more menus, buttons, further
subwindows, text windows, tabs, etc.

Customer service representative status subwindow 1050 may include the
following information relevant to the customer service representative terminal 90: (1) the
customer service representative or agent number, the representative's profile including a
21 listing of the queues 180 that the representative has access to, the number of customers in
a particular queue 180, and information relating to the time worked by the representative
(shown collectively as 1090) and (2) a call information subwindow 1100 that may display
the current type of customer interaction request, the customer or caller's identification,

-21-

1 and other information related to a specific customer including the information stored in
database 130. Such information may be available as a "screen pop" - - it may be
instantaneously displayed at the customer service representative terminal 90 when the
associated customer interaction request is accessed for processing.

6 The customer interaction subwindow 1040 may display customer information
retrieved from database 130 or information related to the customer interaction request.
Such information is selectable via tab 1060 and it too may be available as a screen pop.
For example, in Figure 6E, the customer interaction subwindow 1040 is displaying
information related to the offered product that customer 20 has selected. In this manner,
the customer service representative may interact intelligently with the customer with
11 respect to the customer's request. In Figure 6F, the customer service representative has
selected the "Web Page" tab 1060 causing one or more of the web pages previously or
currently viewed by customer 20 to be displayed. (Further description of this web page
collaboration feature of system 10 is discussed below). This too makes interaction with
customer 20 easier (e.g., customer service representative may relate to the customer 20 the
16 particular location on the web page 1000 to find a particular options, etc.).

b. E-mail

Turning now to Figure 6G, the customer 20 has chosen to interact with business
50 via e-mail. In Fig. 6H, web site 1000 has provided customer with an e-mail window
21 1120 addressed to business 50. The customer 20 may enter text in subwindow 1130,
including any questions that the customer 20 may have for the customer service
representative 90.

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1 In Figures 6I-J, the customer representative GUI window 1110 associated with the customer's e-mail request is shown. (At this point, the customer's e-mail has been received by customer service center 30, the customer 20 may have been identified, relevant customer information may have been accessed, the e-mail may have been prioritized in a queue 180, and "re-prioritized" by supervisor 100, before being accessed by customer
6 service representative terminal 90). In the customer interaction subwindow 1040, the customer's e-mail is displayed. The customer service representative may chose to reply to the e-mail or print it with button 1140. As shown in Figure 6J, the reply may be one of a plurality of predefined responses selectable by button 1150 or one custom tailored to the customer's request. Attachments may also be sent to the customer through reply e-mail.
11 Note that, as with many customer interaction requests, the reply or response need not be via e-mail -- the customer 20 may request that the response be in some other media (e.g., fax, telephone call, etc.) or customer service representative may desire to use some other media.

16 In Figure 6K, the customer supervisor representative terminal 90 is able to classify or enter information related to the call in the customer interaction subwindow 1040. The information entered may be used to update database 130. This option may, of course, be available to the customer service representative when responding to any type of customer interaction request.

21 In an alternative embodiment of system 10, when the customer service representative terminal 90 has formulated a response (custom or predefined) to the customer's e-mail, the response be routed to a supervisor terminal 100 for review. A queue may be used to store one or more of e-mails routed to supervisor 100. Supervisor terminals 100 may edit the response e-mail in a particular manner before sending it to the

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1 customer 20. The e-mail may also be "cc'ed" or distributed to the customer service representative, so that the customer service representative may review any changes made by the supervisor. This embodiment of system 10 is illustrated in Figure 10.

Customer interaction request via e-mail need not, of course, originate from the business' web site 1000. Business 50 may receive e-mails from customers 20 via
6 conventional e-mail application (e.g., Microsoft Outlook) that are not associated with the web site 1000.

c. Chat

Figures 6M-R illustrate various displays associated with customer interactions
11 request for a chat session with a customer service representative terminal 90. In Figure 6M, the customer 20 has chosen the chat customer interaction request on web site 1000. In Figure 6N, the customer service representative may respond with a chat message as shown in subwindow 1160. (Alternatively, the customer 20 may chose or be prompted to issue the first message). As with e-mail responses, the message transmitted by customer
16 service representative terminal 90 may be selected from a list of predefined responses or may be a custom tailored one. Note that in Figure 6N, customer information may be provided to the customer service representative terminal 90. In Figure 6N, for example, the customer 20 may have previously selected the "Rome" offering and now wishes to ask questions of a customer service representative terminal 90 via a chat session.

21 In Figure 6O, there is shown the customer 20 display for the requested chat session. In Figure 6O, a chat window 1170 has been opened that displays the customer's chat input as well as the customer service representative's response. Chat dialogue may

1 continue in this manner. Figure 6P illustrates an alternative window displayed at the
customer service representative terminal 90.

d. Voice-over-net

Customer 20 may also select to interact with a customer service representative via
6 a voice-over-net application. This type of customer interaction request will be handled in
a similar manner to conventional telephone calls, discussed below.

4. Web Page Collaboration

For a customer 20 and customer service representative 90 to interact more
11 effectively, system 10 provides for a plurality of web collaboration features. For example,
assume that customer 20 has initiated a customer interaction request via a chat session
because the customer 20 has question regarding the company's web site. The customer
20 may display a chat session window and the web page in question. System 10 allows
the customer service representative terminal 90 to display the same web page that the
16 customer 20 is viewing. If customer 20 subsequently changes web pages (e.g., by clicking
on a link), system 10 may be configured such that the web page displayed to the customer
service representative terminal 90 is similarly changed. The same may also be true at the
customer's computer for web pages viewed by the customer service representative
terminal 90.

21 Additionally, the customer service representative may desire to redirect the
customer 20 to a different web page. System 10 may be enabled such that if the customer
service representative terminal 90 switches to another web page, the customer's display
will also switch to that web page (this may be referred to as a "page push"). The

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1 customer service representative may then comment via the chat session on the web page to which the customer 20 has been redirected.

The ideas embodied in the web page collaboration feature may be applied to filling out or completing web based forms. For example, a web page may display a form that prompts the customer 20 to fill in certain information. The customer 20, however,
6 may not understand what type of information is requested or may not have the information. In this case, a customer service representative terminal 90 may collaborate with customer 20 in filling out the form -- both parties may have the ability to input certain information.

Figures 7A-F are illustrative of these aspects of system 10.

11

5. Fax

Customer 20 may select to interact with a customer service representative via fax. Customer 20 may fax a document to customer service center 30 where it may be input into system 10 such that it may be displayed by customer service representative terminal
16 90 (e.g., the fax may be digitally scanned or the fax image file captured and placed in storage 80). The fax received from the customer 20 may be displayed in the customer interaction subwindow 1040 for viewing by the customer service representative 90. Responses may then be formulated in manners similar to those described above. Figures 8A-B illustrate some of these principles of system 10. In particular, Figure 8A illustrates
21 an example customer fax being displayed in a customer service representative's GUI and Figure 8B illustrates that, should the customer service representative's response be in fax form, a plurality of predefined responses may be available. Customer service representative terminal 90, of course, need not necessarily respond by fax.

6. Telephone

Telephone calls initiated by customer 20 to customer service center 30 may be handled according to the principles of system 10, as described above. A telephone call may be received at customer service center 30 and placed in a queue 180. While the customer 20 is "on hold," system 10 may allow business 50 to play messages to customer 20. During the hold time, system 10 may also be identifying the customer 20 and accessing information associated with that customer 20. The customer's call may be prioritized on a queue 180 according to business rules and this priority may be modified by supervisor 100.

D. Remarks

1. Summary

In summary, some of the novel features of system 10 include:

1. A customer 20 may interact with a business 50 through a customer service representative terminal 90 associated with a customer service center 30. The customer 20 may interact with the customer service representative 90 via a variety of media, including telephone, e-mail, chat, fax, etc. The customer service representative terminal 90 need not necessarily respond to the customer 20 via the same medium through which the interaction requested was initiated. At the customer's request, or for other reasons, the customer service representative's response may be via a different medium.

2. If a customer's request is better handled by a customer service representative (than by an automated response system), the request is routed based upon the type of request, the skills of the available customer service representative(s) terminals 90, and /or other associated information, to a specific customer service representative

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1 terminal 90. If no suitable customer service representative terminal 90 is available, the
customer interaction request is assigned a priority according to a predefined set of
business rules, criteria, and factors and placed on a queue. The supervisor may monitor
and control a unified queue. In other words, system 10 automatically routes, queues,
prioritizes, and distributes customer request interactions to a capable customer service
6 representative.

3. Each queue that a customer interaction request is placed upon may be
monitored and controlled in real-time by a supervisor with access to and control over
information transmitted and received by the customer service representatives. The
supervisor may monitor and control a unified queue. The supervisor may reprioritize a
11 particular customer interaction request (perhaps based upon information that becomes
known to the supervisor after the request is originally prioritized) or move the customer
interaction request to a different queue or to a different customer service representative.

4. At a customer service representative terminal 90, a unified queue is
available in which the customer service representative may receive an inbound customer
16 interaction request from any of the electronic media disclosed and transmit an outbound
interaction via any of the electronic media disclosed. The inbound and outbound
mediums need not be the same.

2. Miscellaneous

21 It will be readily apparent to those skilled in the art that innumerable variations,
modifications, applications, and extensions of these embodiments and principles can be
made without departing from the principles and spirit of the invention. For example:

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1 • The actions illustrated in the Figures need not be performed in the order shown (e.g., a customer may be identified and associated customer information accessed from database 130 before the customer selects to opt for an automated response).

 • Some or all of the supervisor's monitoring and control capabilities may be provided to one or more customer service representatives 90.

6 • Custom messages may be provided to customers 20 while their interaction requests are pending in a queue.

 • Customer interaction requests that may be responded to by automated responses may also be queued in situations where sufficient resources are not available to handle all such customer interaction requests immediately.

11 • A customer interaction request may be kept on a queue 180 after the customer 20 has terminated the interaction, even if the customer 20 never interacted with a customer service representative terminal 90. Similarly, information associated with the customer interaction request may remain in storage. In this manner, such "lost calls" and their associated information may be tracked and follow up responses may be provided as needed. This aspect of system 10 is illustrated in Figure 11.

 • In Figure 6D, advertisements may be displayed or presented while the customer's interaction request is pending in a queue. By accessing customer information from database 130, the advertisement may be tailored for a particular customer.

21 Alternatively, the customer can be offered a menu of wait activities or content such as music, joke of the day, news or other entertainments.

 Accordingly, it is intended that the scope of the invention be only limited as necessitated by the accompanying claims.

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VII.CLAIMS

What is claimed is:

1. A method of doing business, comprising:

receiving a customer interaction request initiated via an electronic medium;

determining whether the customer interaction request involves interaction with a

customer service representative and, if so:

determining whether a customer service representative is available and, if

not:

queuing the customer interaction request according to an assigned initial

priority;

re-evaluating the assigned initial priority after the customer interaction

request has been queued; and

presenting the customer interaction request to a customer service

representative according to the customer interaction request's priority after re-evaluating.

2. The method of claim 1, wherein the act of re-evaluating the assigned initial

priority comprises changing the assigned priority.

3. The method of claim 1, wherein the act of re-evaluating the assigned initial

priority comprises re-evaluating the assigned priority according to business rules.

4. The method of claim 1, wherein the act of re-evaluating the assigned initial

priority comprises re-evaluating the assigned priority based upon information obtained

after the priority was assigned.

5. A method for handling customer interaction requests that are initiated by

customers using a plurality of electronic media operably linked to a customer service

center of a business, comprising:

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1 establishing a customer interaction request queue in computer storage;
 providing a plurality of customer service representative terminals, each with an
 associated set of service skills;
 receiving a customer interaction request at the customer service center;
 identifying the customer that initiated the customer interaction request;
6 accessing information associated with the customer that initiated the customer
 interaction request;
 placing the received customer interaction request in the customer interaction
 request queue, by assigning a priority to each queued customer interaction request that is
 determined in part by analyzing the accessed information associated with the customer;
11 re-evaluating the assigned priority after the customer interaction request has been
 queued;
 determining whether there is available a customer service representative terminal
 with a service skill that responsive to the customer interaction request and if so,
 presenting the customer interaction request to that customer service representative
16 terminal.

6. The method of claim 5, wherein the act of accessing information associated with
 the customer comprises accessing information indicative of the value of the customer to
 the business.

7. The method of claim 5, wherein the act of assigning a priority is determined in
21 part by a set of businesses rules.

8. The method of claim 5, wherein the act of re-evaluating the assigned initial
 priority comprises changing the assigned initial priority before the customer interaction
 request is provided to a customer service representative terminal.

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1 9. The method of claim 5, further comprising monitoring in real-time the customer interaction request queue after a customer interaction request has been assigned a priority.

 10. The method of claim 5, further comprising displaying some of the accessed information associated with the customer that initiated the customer interaction request at the customer service representative terminal where the customer interaction request is
6 presented.

 11. The method of claim 5, further comprising determining whether a customer interaction request received at the customer service center requires a customer service representative and, if not:

 providing an automated resource to respond to the customer interaction request.

11 12. A system for handling customer interaction requests received by a business, wherein the customer interaction requests may be initiated via a plurality of electronic media, comprising:

 a plurality of customer service representative terminals for receiving information associated with customer interaction requests and for responding to the customer
16 interaction requests;

 at least one queue on which customer interaction requests may be assigned a priority and placed before being routed to one of the customer service representative terminals; and

 a queue controller for selecting which customer service representative terminal a
21 customer interaction request is routed to;

 wherein the queue controller may route customer interaction requests to customer service representative terminals according to information other than the assigned priority.

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1 13. The system of claim 12, further comprising logic for assigning a priority to a customer interaction request according to rules defined by the business.

 14. The system of claim 12, further comprising:

 a skills set associated with one or more of the customer service representative terminals; and

6 logic for determining whether a customer service representative terminal may receive a customer interaction request based upon an associated skills set.

 15. The system of claim of claim 12, further comprising a storage for storing information associated with customers that initiate customer interaction requests.

 16. The system of claim 12, further comprising:

11 logic for determining whether a customer interaction request requires human interaction and, if so:

 determining whether a customer service representative terminal is available; and

 if not:

16 providing an automated resource to respond to the customer interaction request.

 17. The system of claim 12, further comprising:

 at least one communications device associated with the customer service representative terminal.

21 18. The system of claim 12, wherein at least one customer service representative terminal comprises:

 a GUI having a window capable of displaying information associated with a customer interaction request.

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- 1 19. A method for interacting with a customer via a network capable of providing an
interactive, displayable site accessible by customers of a business operating the site,
wherein the site may have a plurality of displayable pages, comprising:
- providing the site, such that at least one page is presentable to a customer;
 receiving a customer interaction request;
- 6 routing the customer interaction request to a terminal associated with the business
that is capable of displaying at least one page of the site;
- interacting with the customer via the terminal, including:
- displaying the same page at the terminal as is displayed to the customer;
 causing a selected change in the page displayed at the customer
- 11 automatically to change the page displayed at the terminal; and
 vice versa.
20. The method of claim 19, wherein the act of receiving a customer interaction
request comprises receiving a customer interaction request via a page of the interactive
site.
- 16 21. The method of claim 19, wherein the act of interacting with the customer via the
terminal, further comprises:
- interacting with the customer via a chat session.
22. The method of claim 19, wherein the act of interacting with the customer
via the terminal, further comprises:
- 21 displaying at the terminal information associated with the customer.
23. The method of claim 19, wherein the act of interacting with the customer
via the terminal, further comprises:
- allowing the customer to enter information into a form displayed on a page; and

1 allowing an operator of the terminal to enter information into the form displayed
on the page.

24. A method for handling customer interaction requests that are initiated by
customers using a plurality of electronic media operably linked to a business, comprising:
 assigning a priority to customer interaction requests according to information
6 associated with the customer that initiated the customer interaction request and predefined
rules;

 queuing customer interaction requests on a queue;

 updating information associated with at least one customer interaction request
while the at least one customer interaction request is in the queue;

11 monitoring a portion of the updated information;

 re-evaluating the priority assigned to at least one of the customer interaction
requests; and

 routing at least one customer interaction request to a customer service
representative terminal capable of handling the customer interaction requests.

16 25. The method of claim 24, further comprising:
 identifying the customer by analyzing information associated with the customer
interaction request; and

 accessing previously compiled information associated with the customer.

21 26. The method of claim 24, wherein the act of re-evaluating the priority assigned to
some of the customer interaction requests comprises changing the assigned priority based
upon some of the updated information.

27. A method for handling customer interaction requests that are initiated by
customers using a plurality of electronic media operably linked to a business, comprising:

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1 receiving a customer interaction request;

determining whether the customer interaction request requires interaction with a customer service representative and, if so:

determining whether a customer service representative is available and, if not:

6 assigning a priority to the customer interaction request;

queuing the customer interaction request according to its assigned priority;

monitoring information associated with the queued customer interaction request; and

allowing the customer interaction request's priority to be changed based

11 upon the information associated with the queued customer interaction request.

28. The method of claim 27, wherein the act of receiving a customer interaction request further comprises receiving a customer interaction request via an e-mail.

29. The method of claim 27, wherein the act of receiving a customer interaction request further comprises receiving a customer interaction request via a telephone.

16 30. The method of claim 27, wherein the act of receiving a customer interaction request further comprises receiving a customer interaction request via a chat session.

31. The method of claim 27, wherein the act of receiving a customer interaction request further comprises receiving a customer interaction request via a facsimile.

32. The method of claim 27, wherein the act of receiving a customer interaction request further comprises receiving a customer interaction request via a network site.

21 33. The method of claim 32, wherein the network site comprises a plurality of pages and wherein a customer at a remote terminal initiated the customer interaction request via

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1 the network site, further comprising displaying the same network site page as the customer that initiated the customer interaction request.

34. The method of claim 33, further comprising changing the page displayed when the customer changes the page displayed at the customer's terminal.

6 35. The method of claim 33, further comprising changing the page that the customer is displaying at the customer terminal.

36. The method of claim 33, further comprising interacting with the customer via another electronic format when the customer is displaying an network site page.

11 37. The method of claim 36, further comprising displaying a form on the page and allowing information on the form to be entered by the customer and a customer service representative.

38. The method of claim 27 further comprising:
identifying the customer that initiated the customer interaction request; and
accessing information associated with the customer.

16 39. The method of claim 38 wherein the act of identifying the customer comprises identifying the customer by analyzing information associated with the customer interaction request.

40. The method of claim 38 wherein the act of identifying the customer comprises identifying the customer by prompting the customer to identify himself.

21 41. The method of claim 27, further comprising:
while the customer interaction request is in the queue,
updating information associated with the queued customer interaction request and
updating information associated with the customer that initiated the customer interaction request.

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42. The method of claim 27, wherein if the customer interaction request does not requires interaction with a customer service representative, then:

providing a queue for customer interaction requests that do not require a customer service representative;

providing customer selectable automated responses;

providing a queue for the customer selectable automated responses.

43. A method for handling customer interaction requests that are initiated by customers using a plurality of electronic media operably linked to a business, comprising:

receiving a customer interaction request;

identifying information associated with the customer that initiated the customer

interaction requests;

queuing the customer interaction request;

determining whether the customer has terminated the customer interaction request

and, if so;

accessing information associated with the customer and associated with the

customer interaction request; and

initiating an interaction request to the customer.

44. A method for handling customer interaction requests that are initiated by customers using a plurality of electronic media operably linked to a business, comprising:

receiving a customer interaction request;

determining whether the customer interaction request requires interaction with a customer service representative and, if so:

determining whether a customer service representative is available and, if

not:

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- 1 assigning a priority to the customer interaction request;
 queuing the customer interaction request according to its assigned
 priority; and
 providing the customer with options during the time the customer's
 interaction request is queued.

6

45. The method of claim 44, wherein the act of providing the customer with option includes providing the customer with the option of providing information associated with the customer.

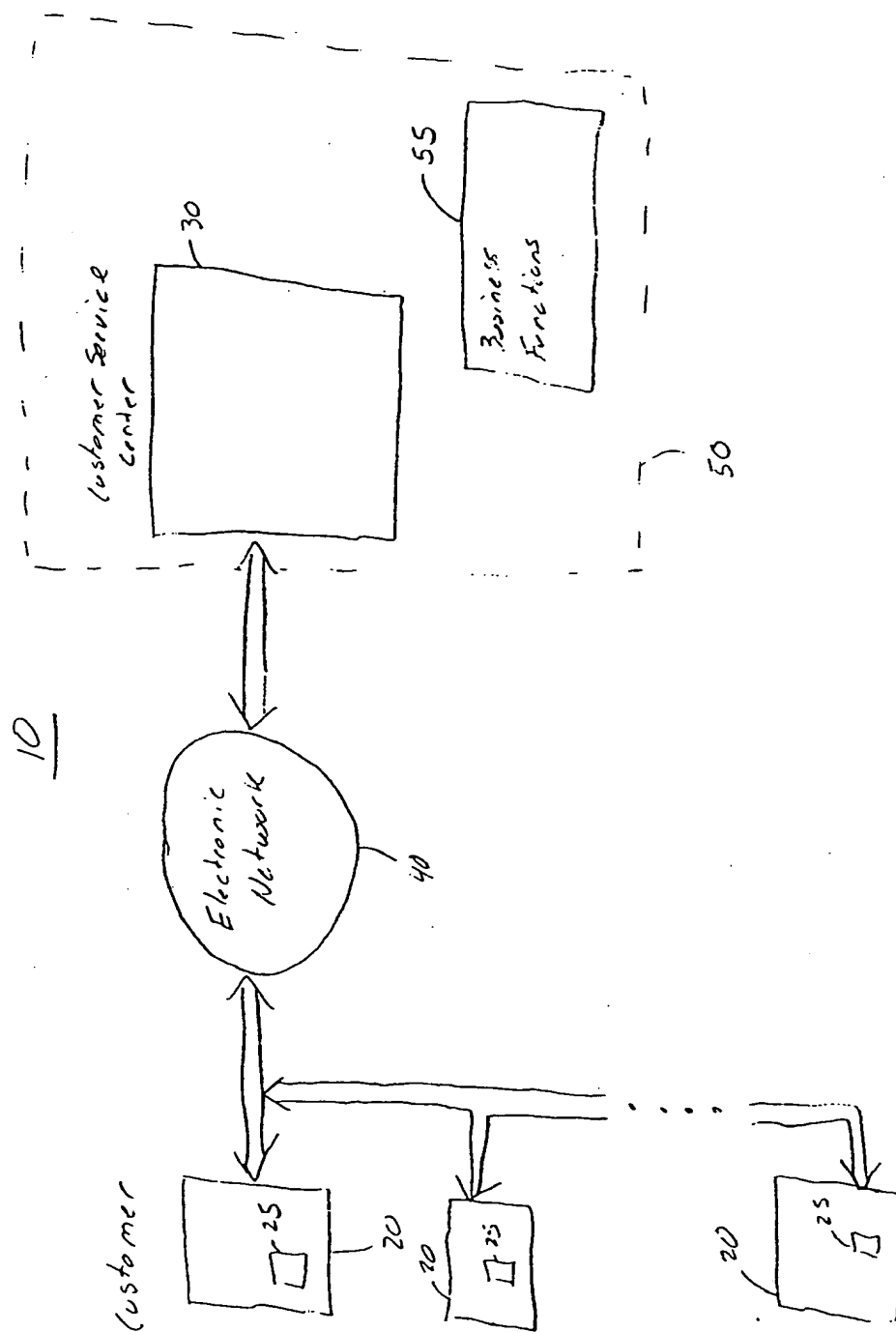


Fig. 1

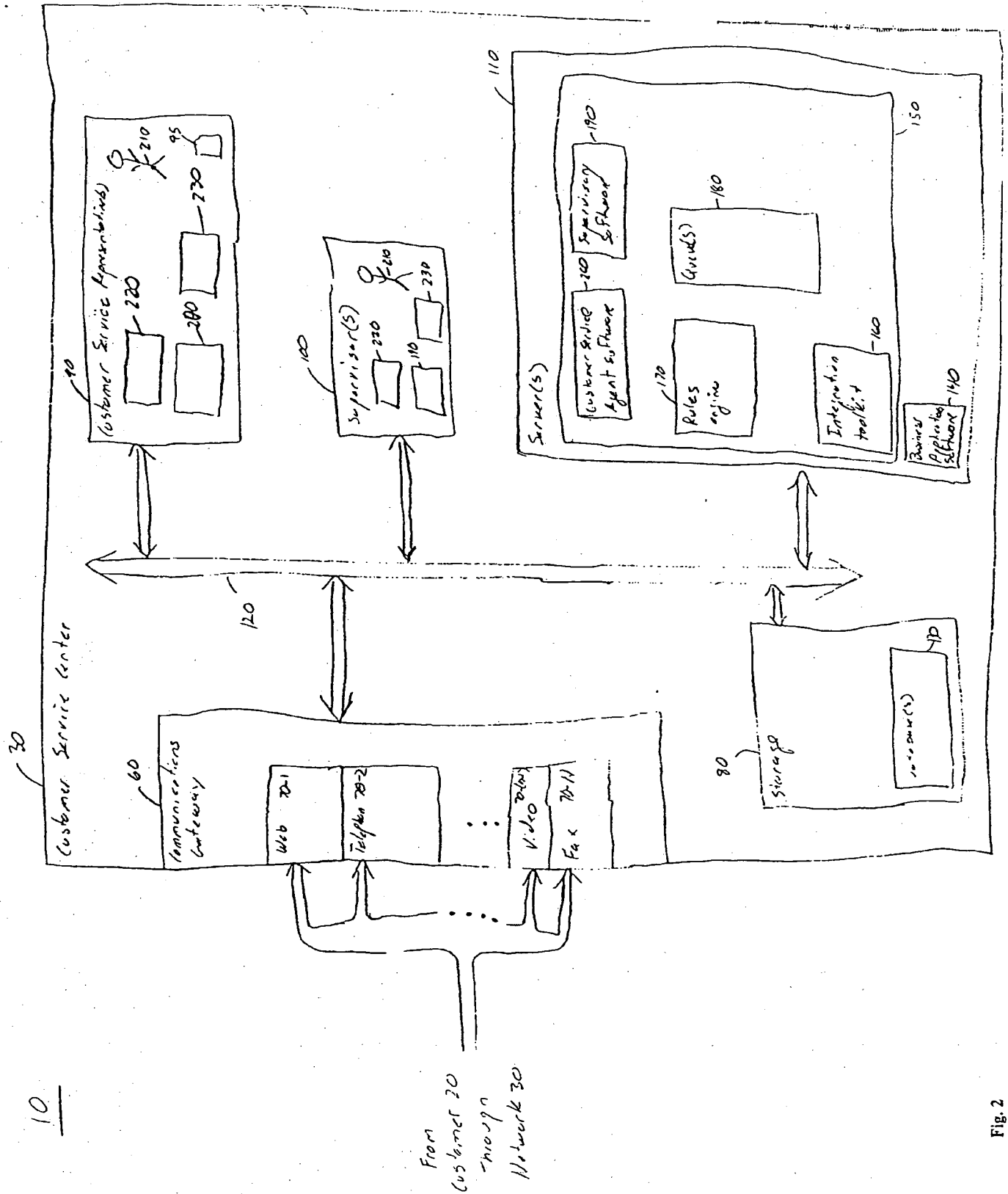


Fig. 2

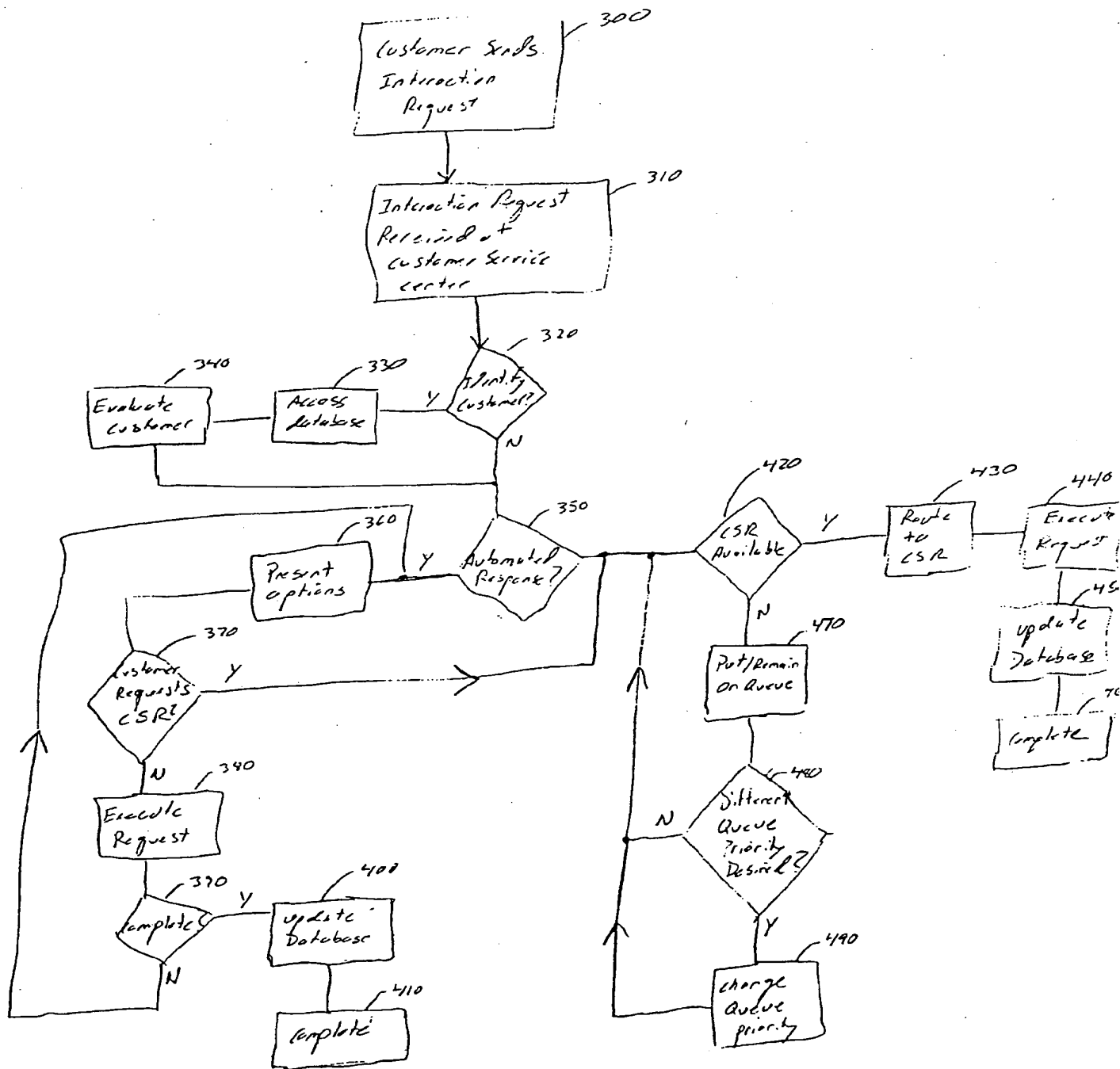


Fig. 3

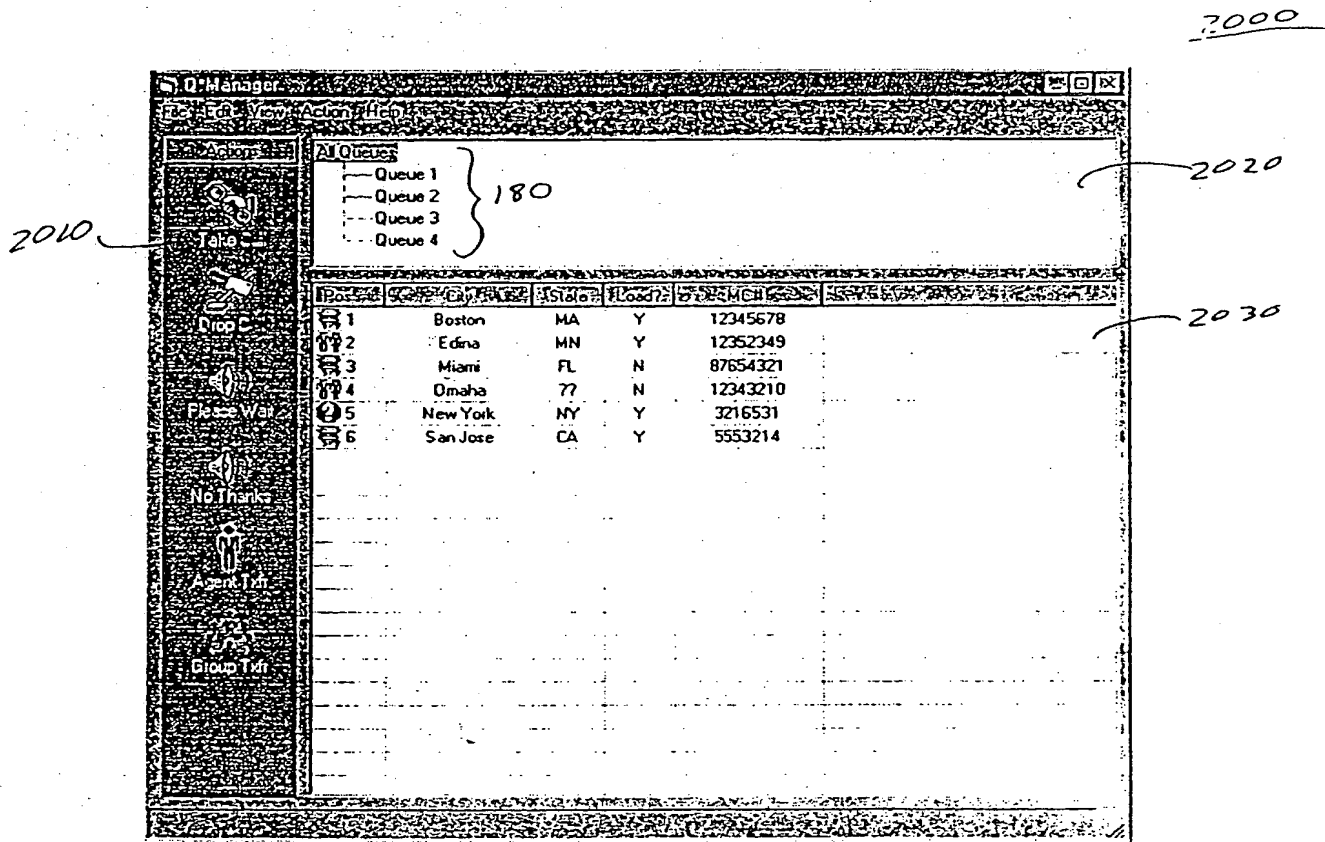


Fig. 4



TOTAL INTERACTIONS REPORT
From 10 June 1998 00:00:00 to 10 June 1998 23:59:59

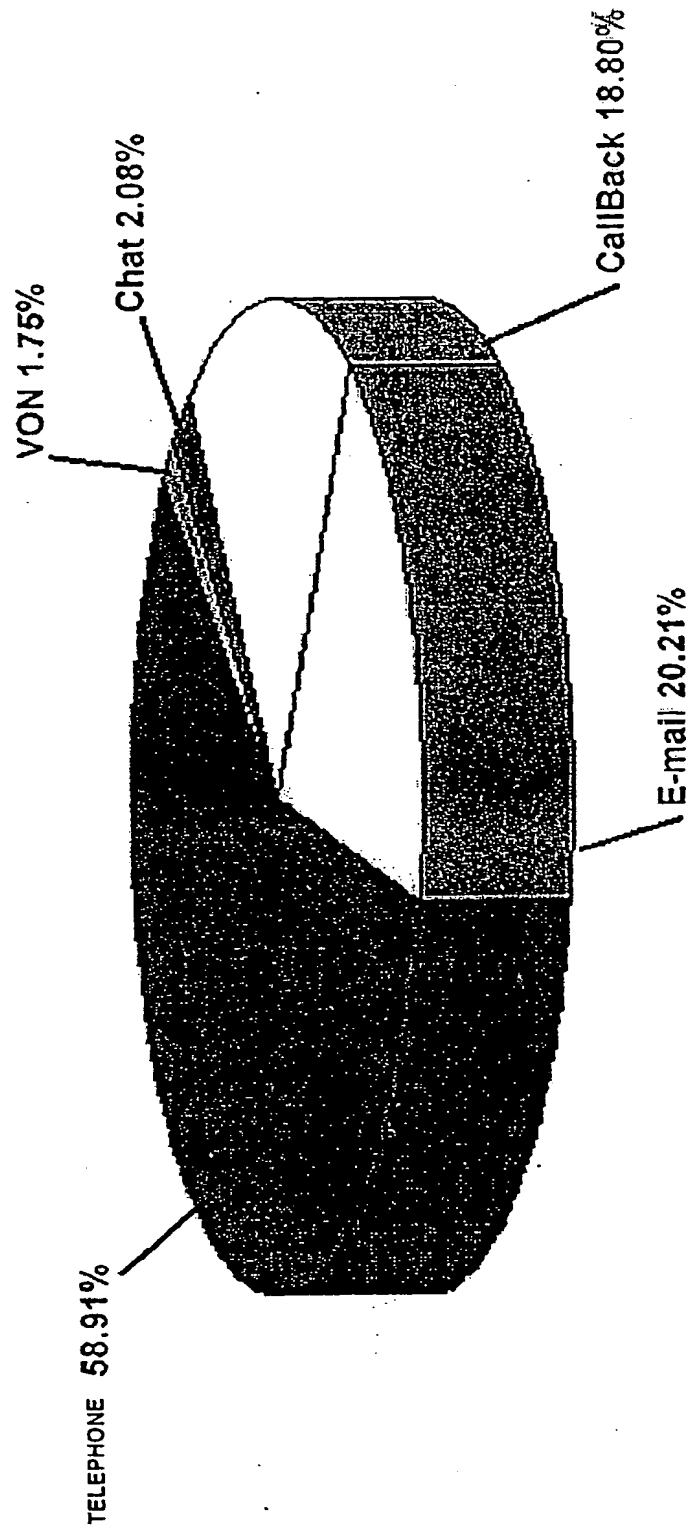


Fig. 5A

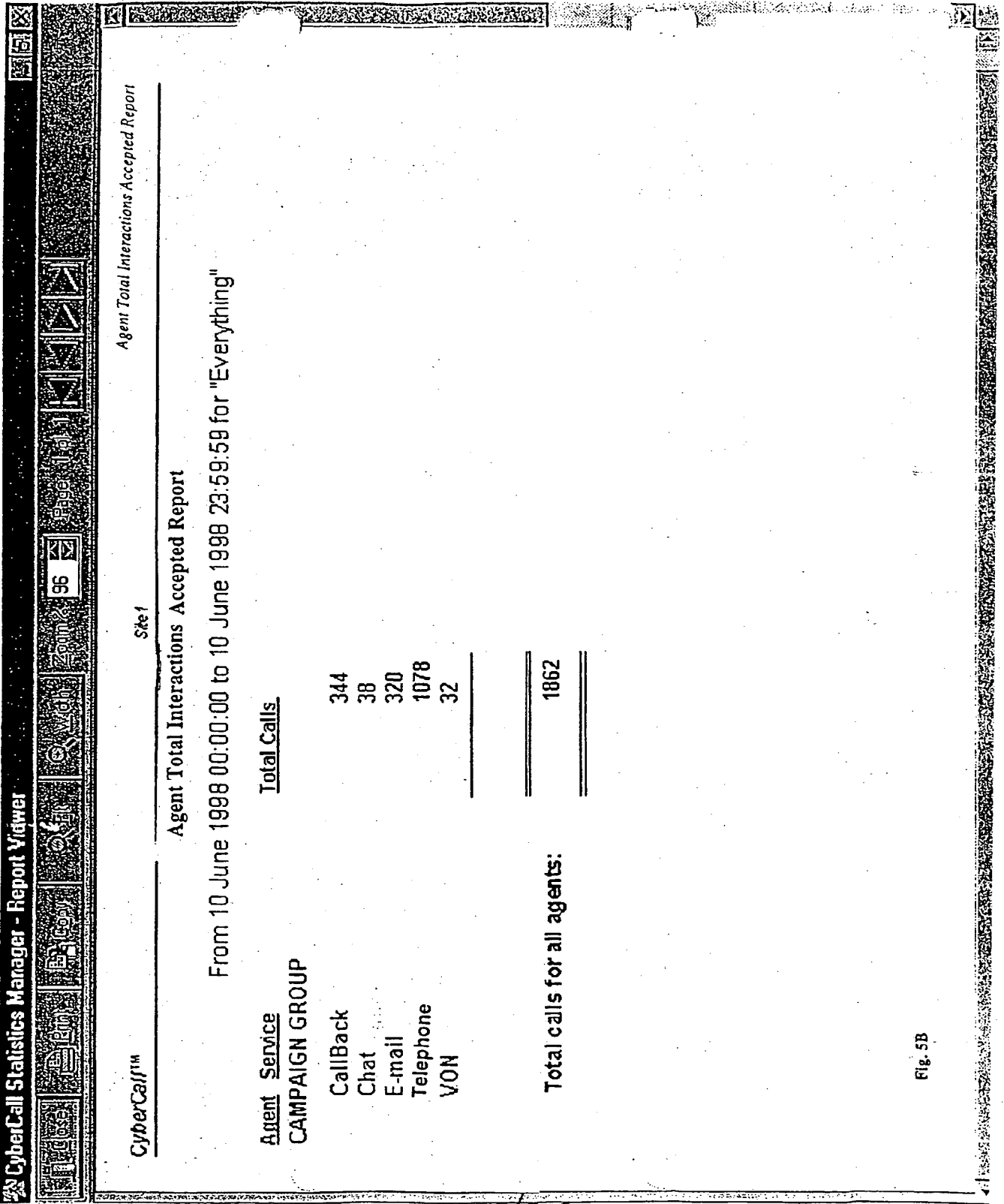


Fig. 5B

[illegible]

BNSDOCID: <WO_____0140959A1_I_>

1000

Fig. 6A

1000

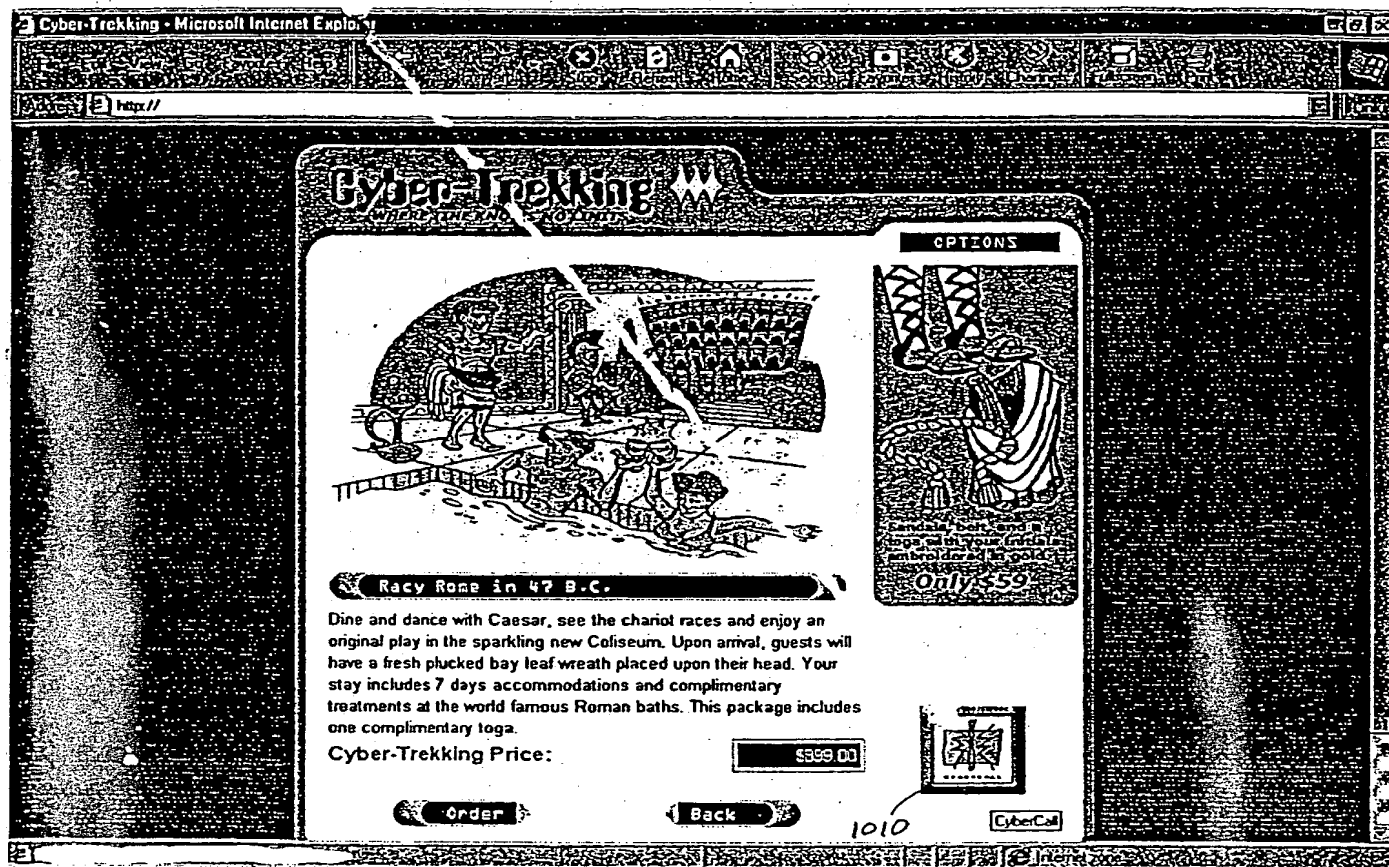


Fig. 6B

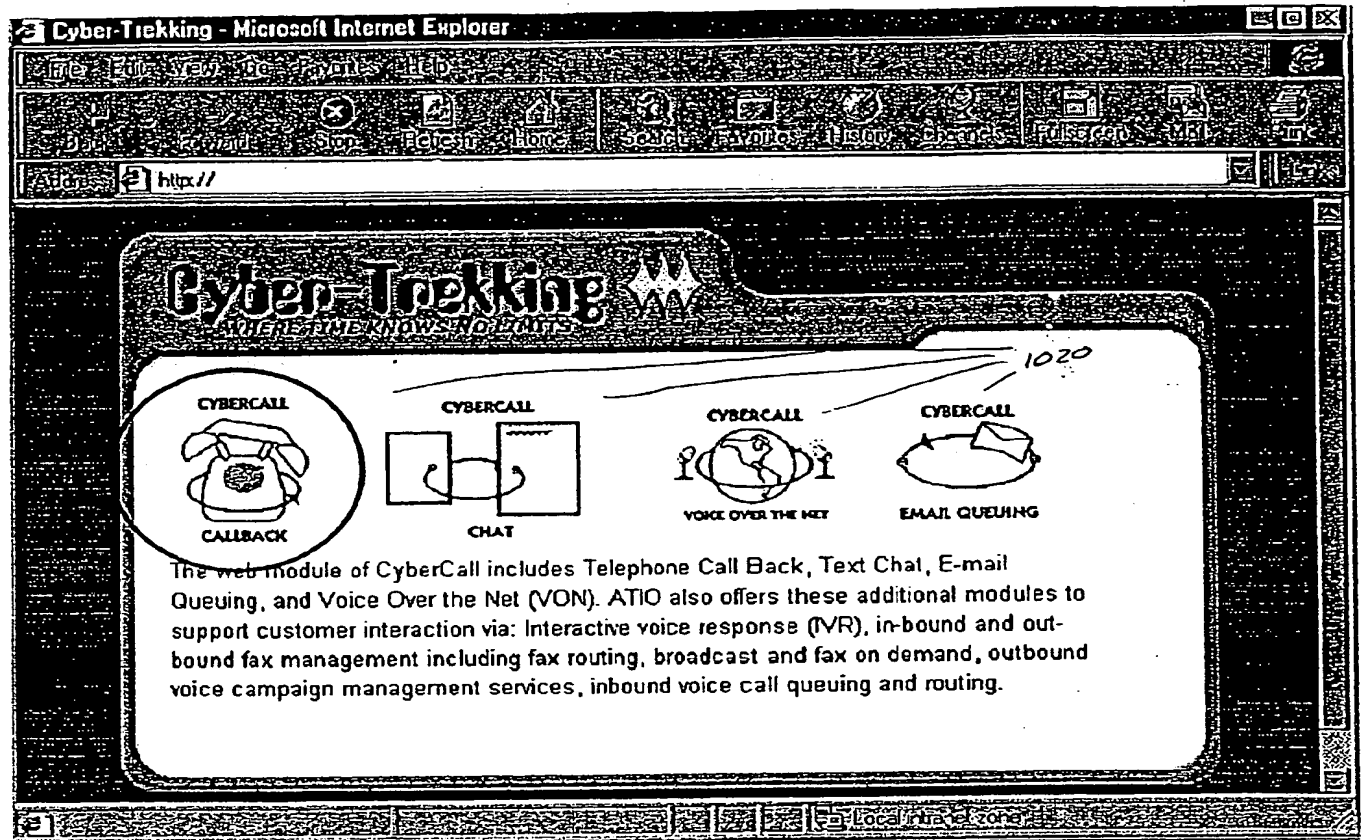


Fig. 6C

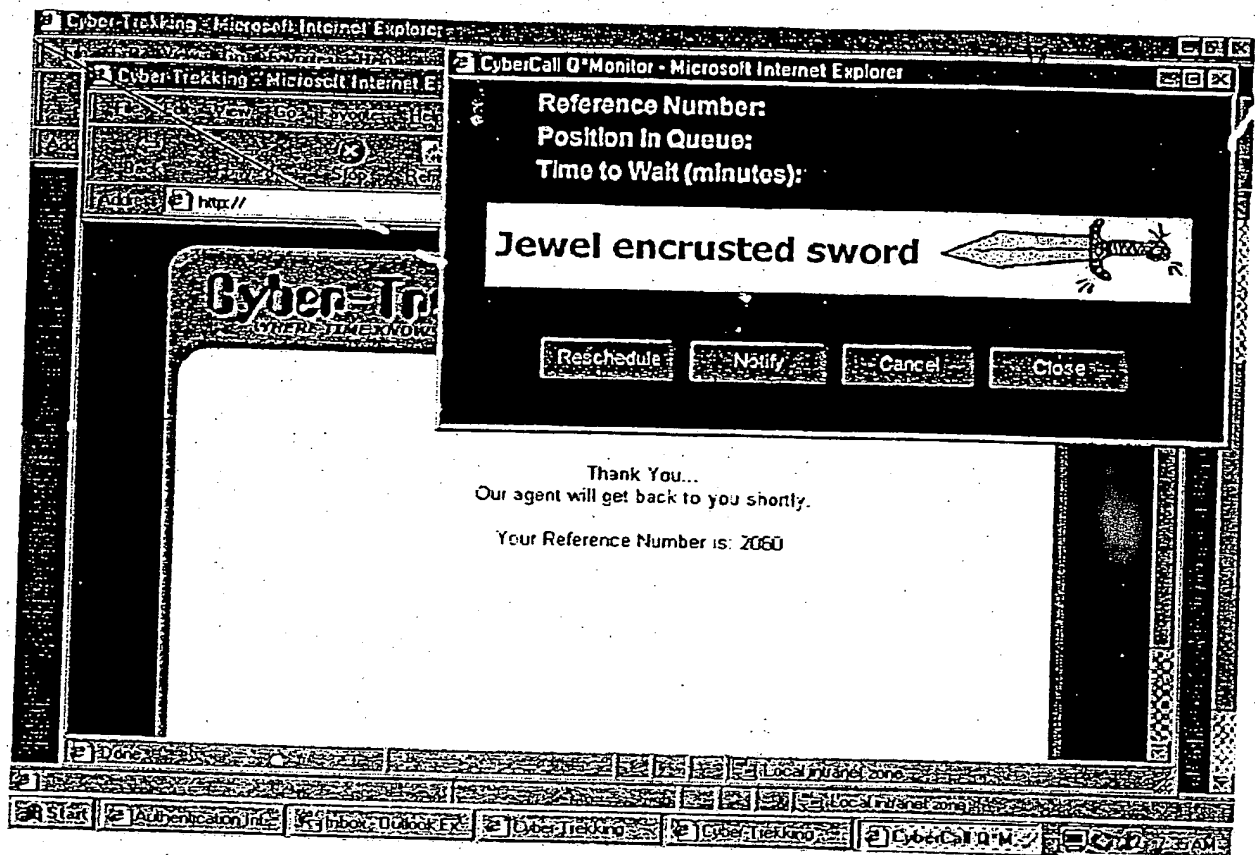


Fig. 6D

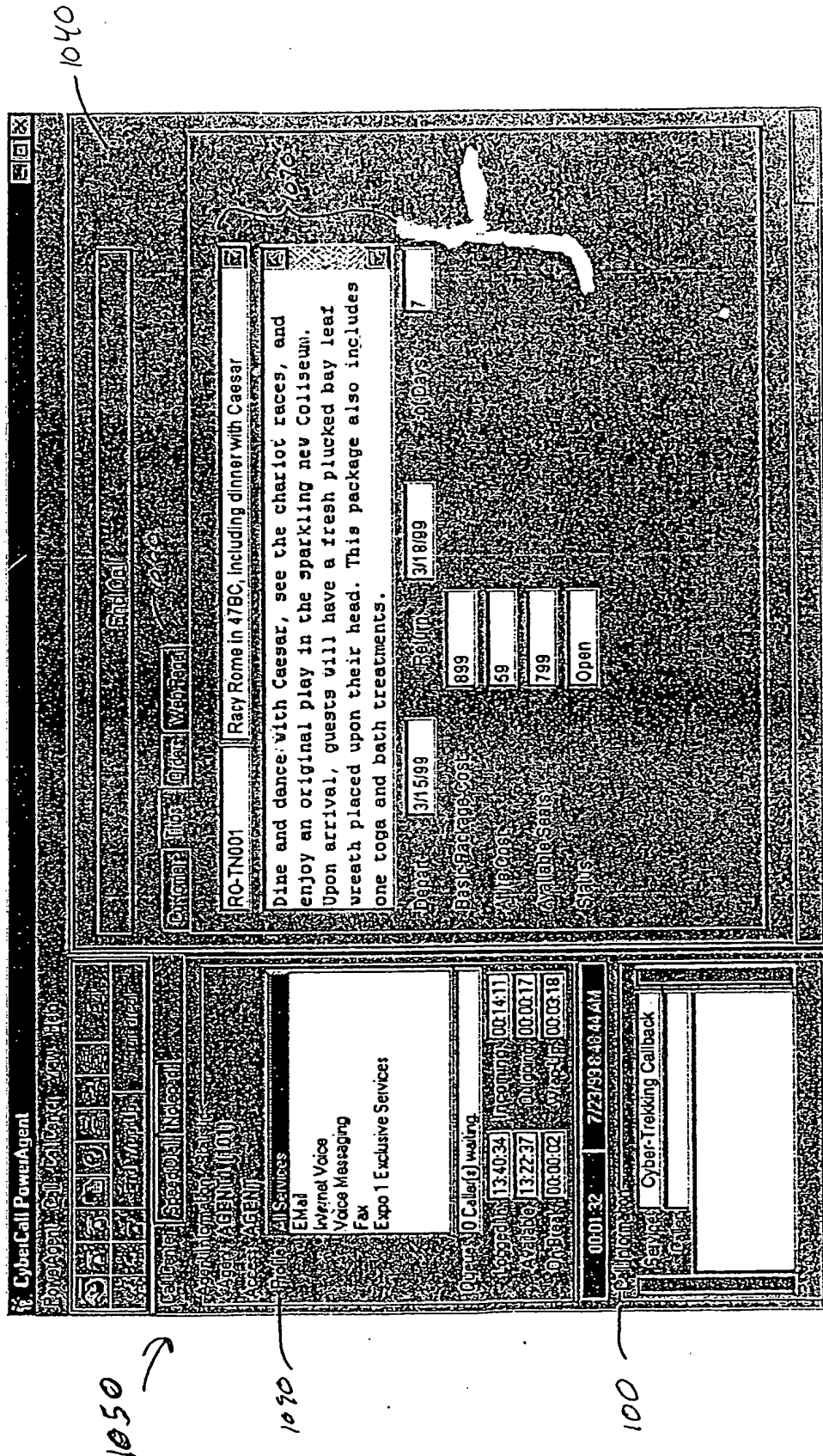
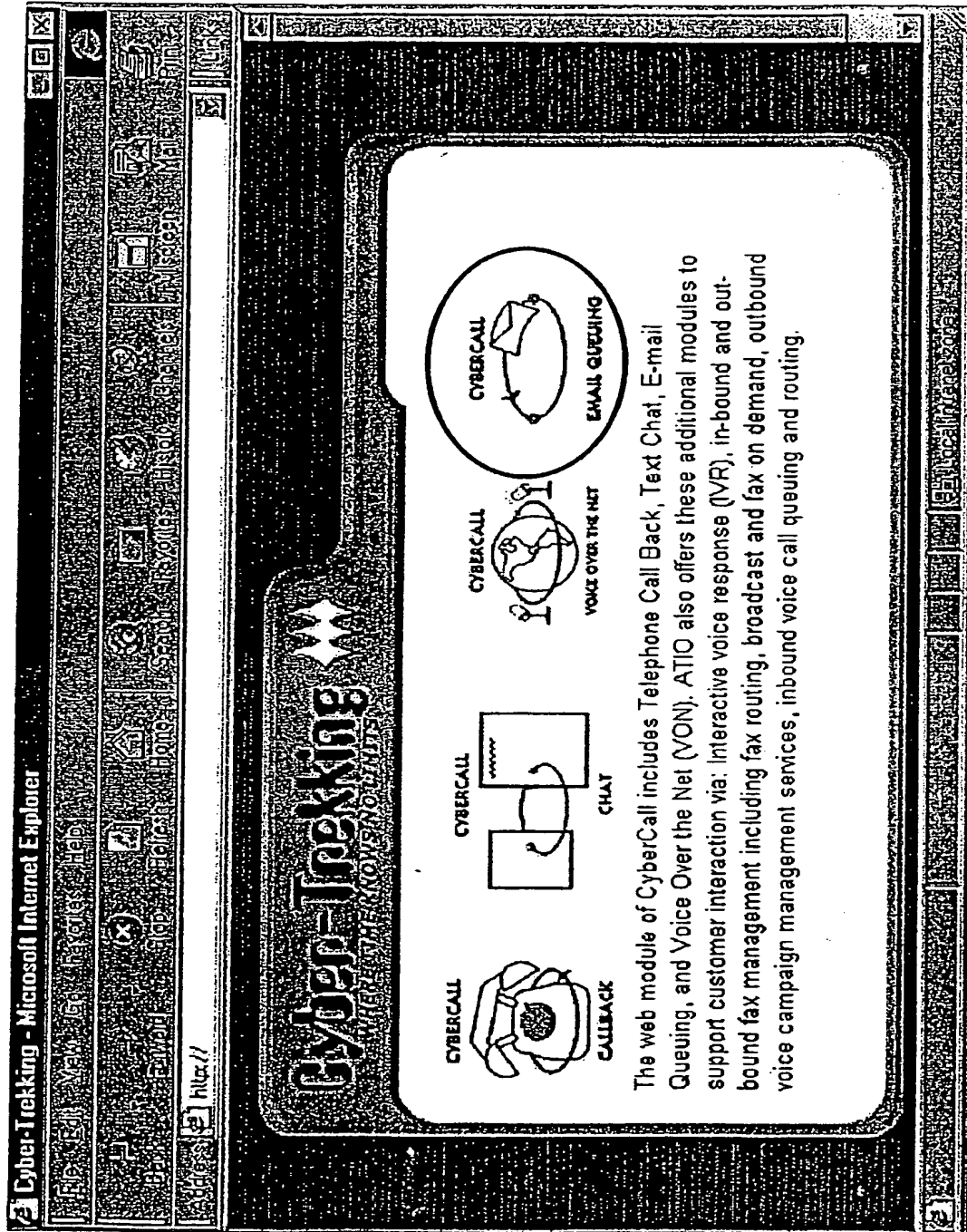


Fig. 6E



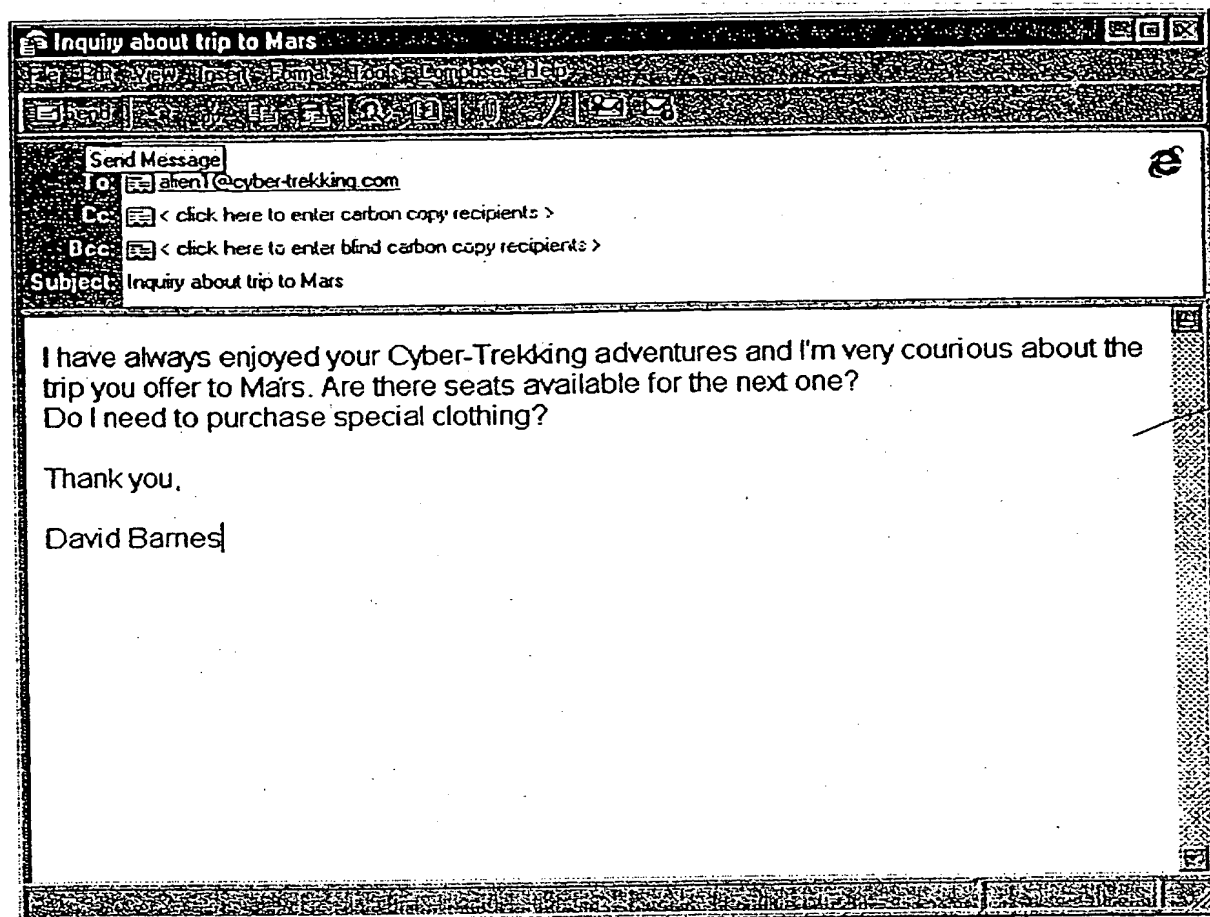
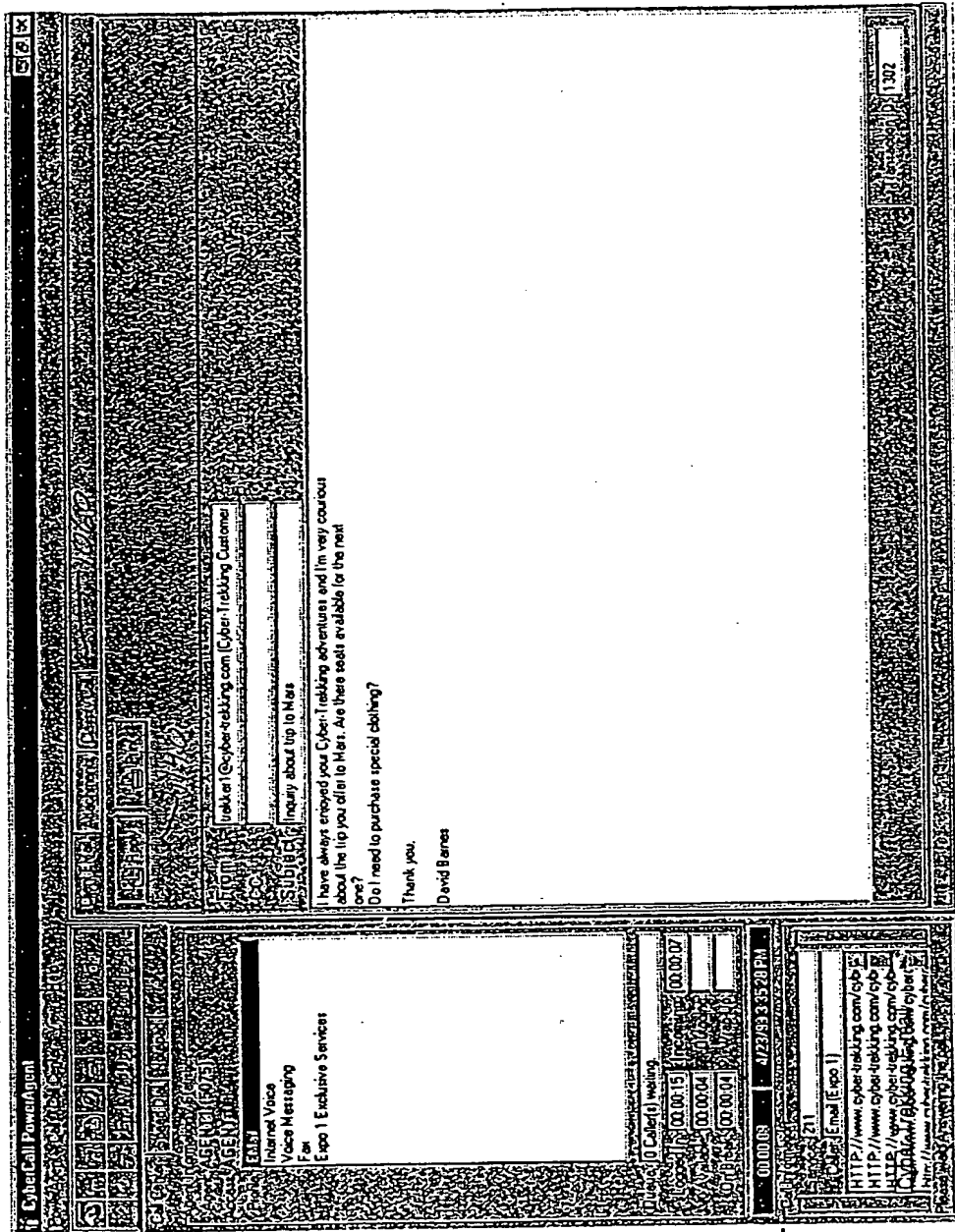


Fig. 6H

1110



1050

1100

Fig. 61

Fig. 6J

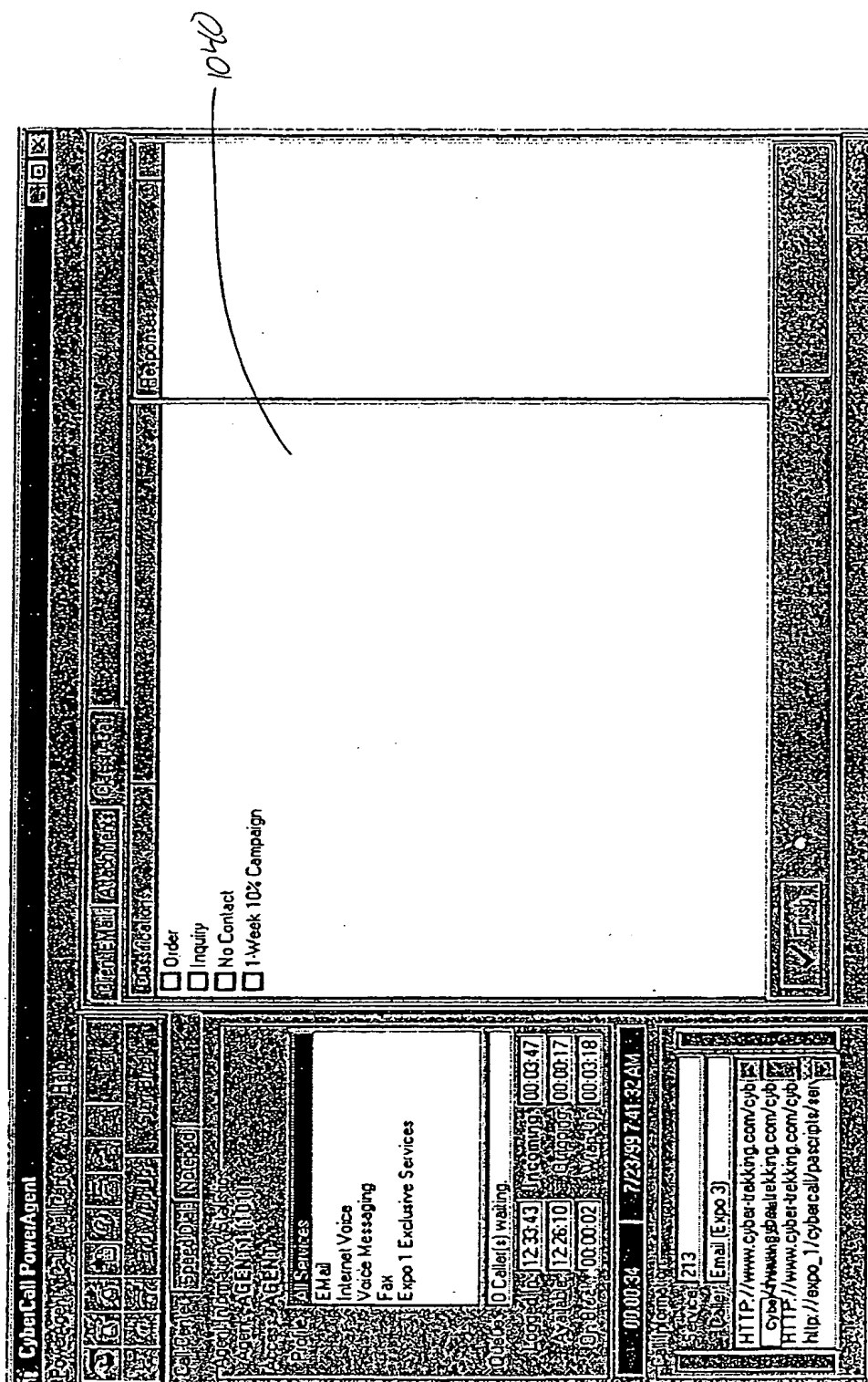


Fig. 6K

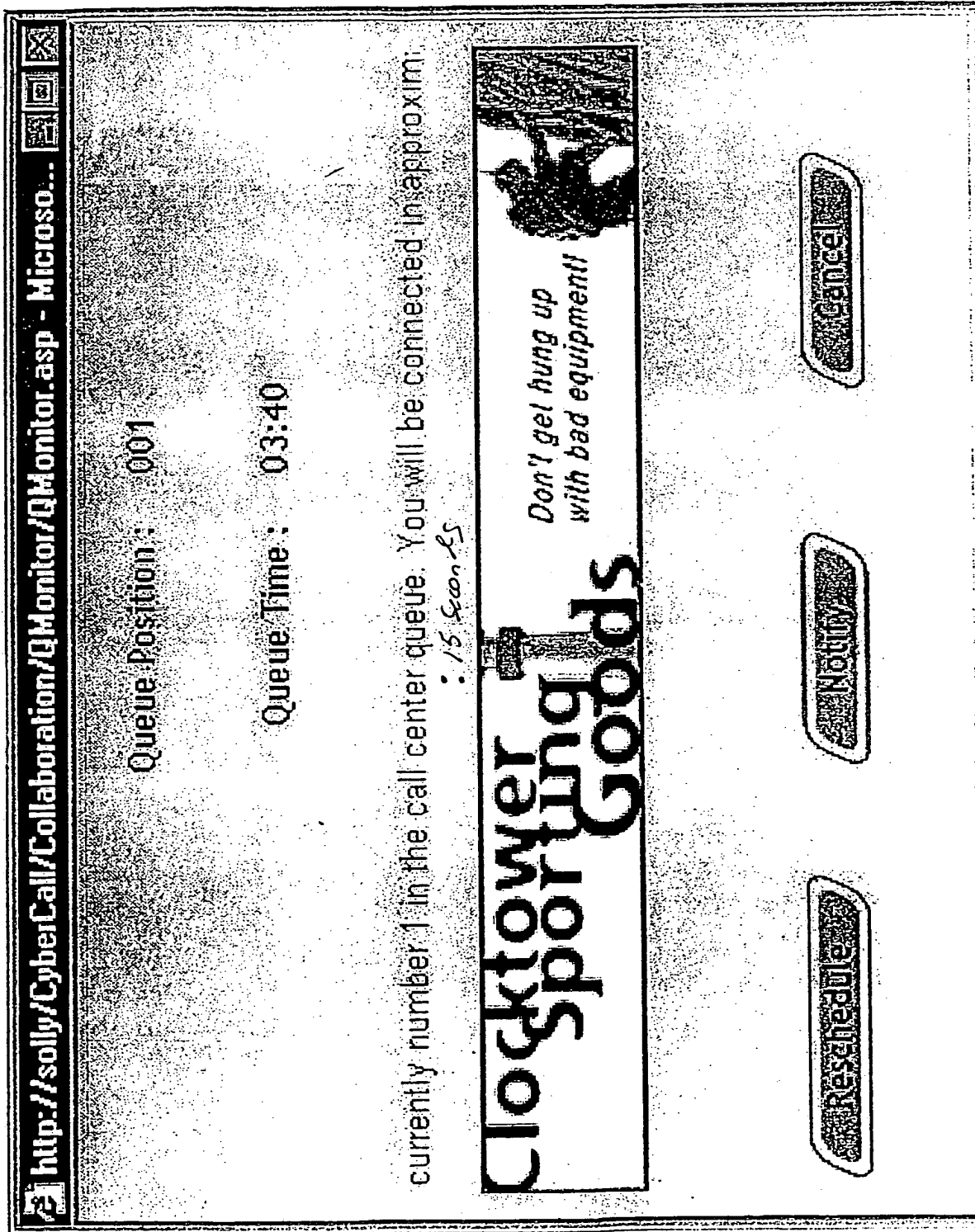


Fig. 6L

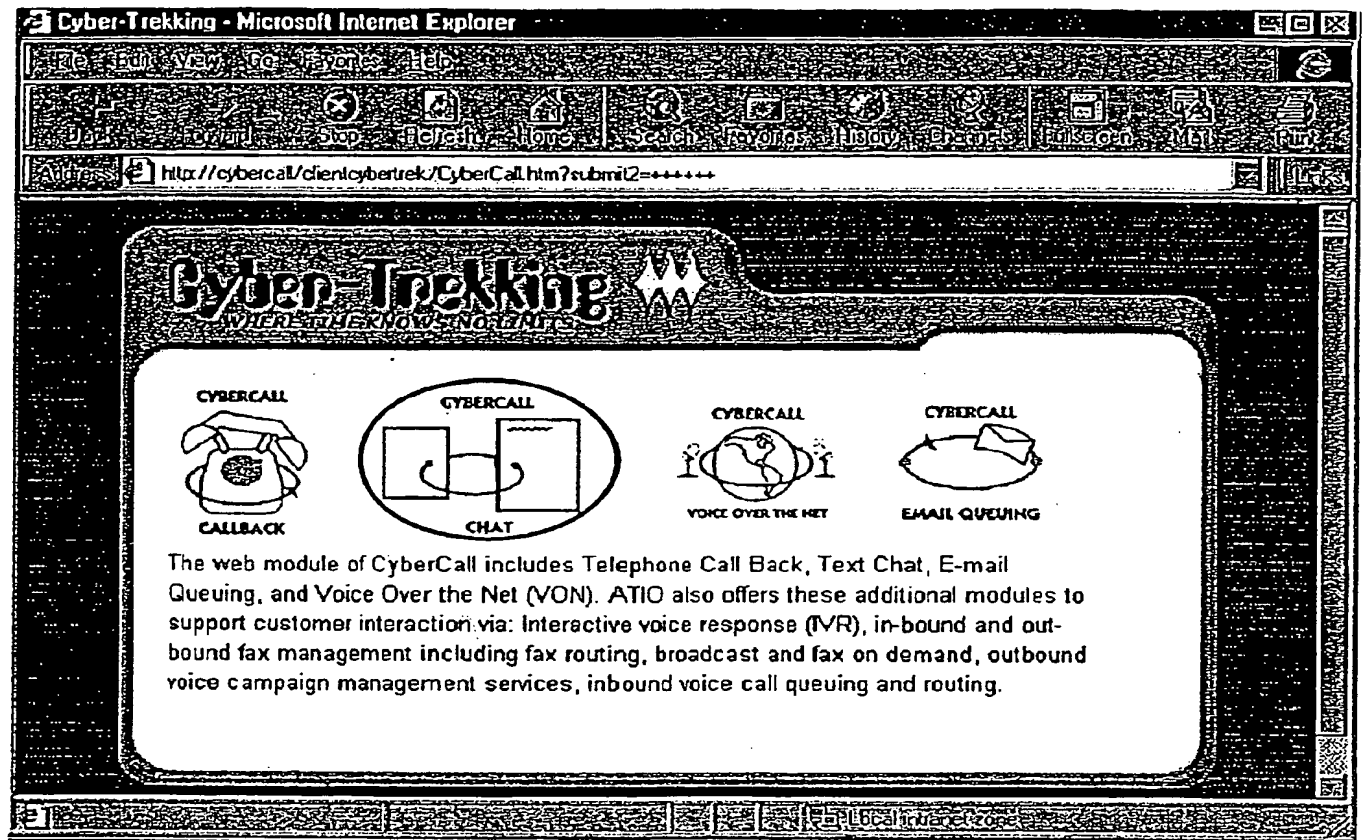


Fig. 6M

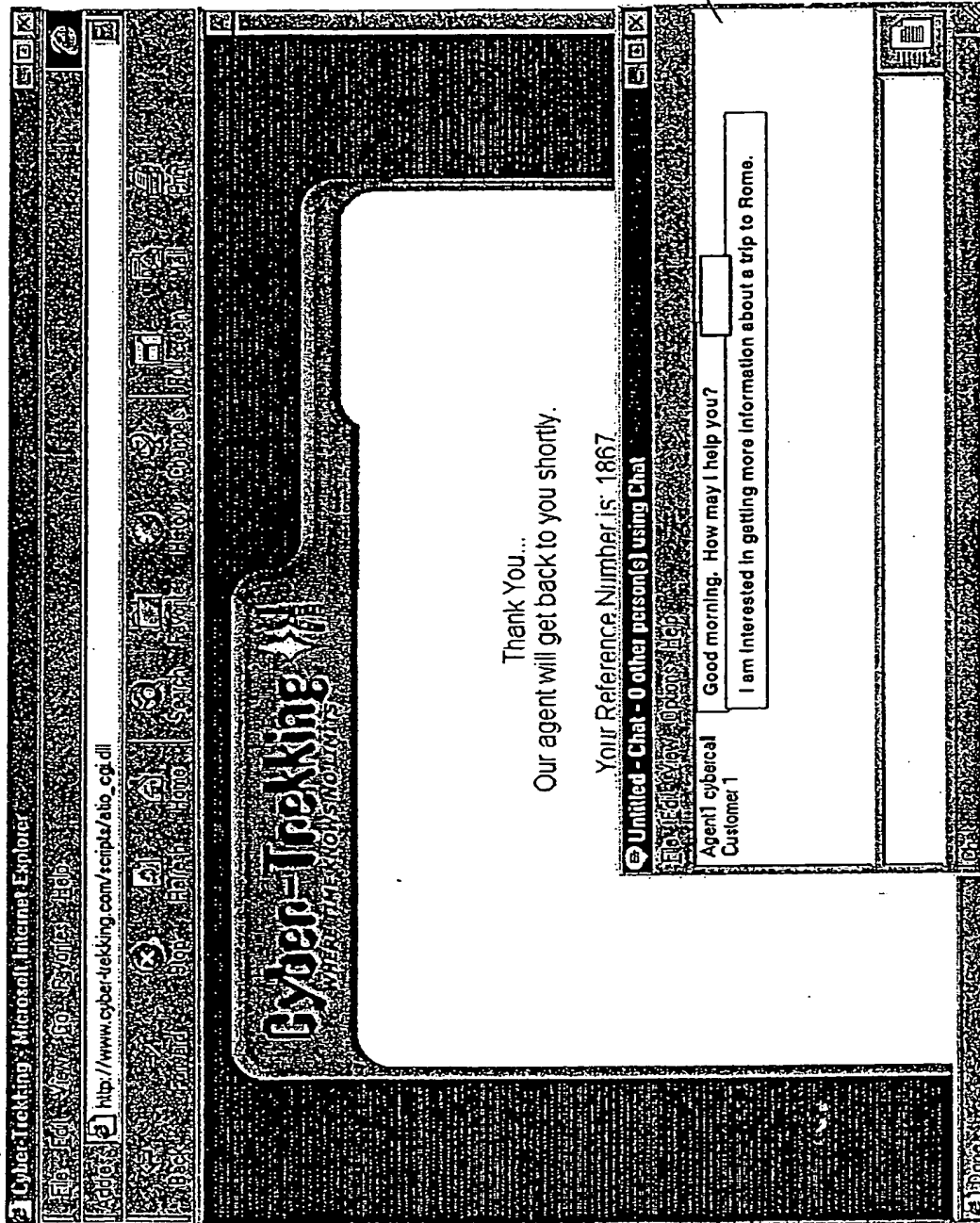


Fig. 60

Home	Data	Customer Page	Chat
------	------	---------------	------

Webdemo1: We have a special on the shoes that you're interested in.
Customer: hello
Customer: Joins the conversation.
Webdemo1: How may I help you?
Webdemo1: Joins the conversation.

Welcome to CyberCell.

Default Category

Sample Message

Chat Category

Submit

Clear

Fig. 6P

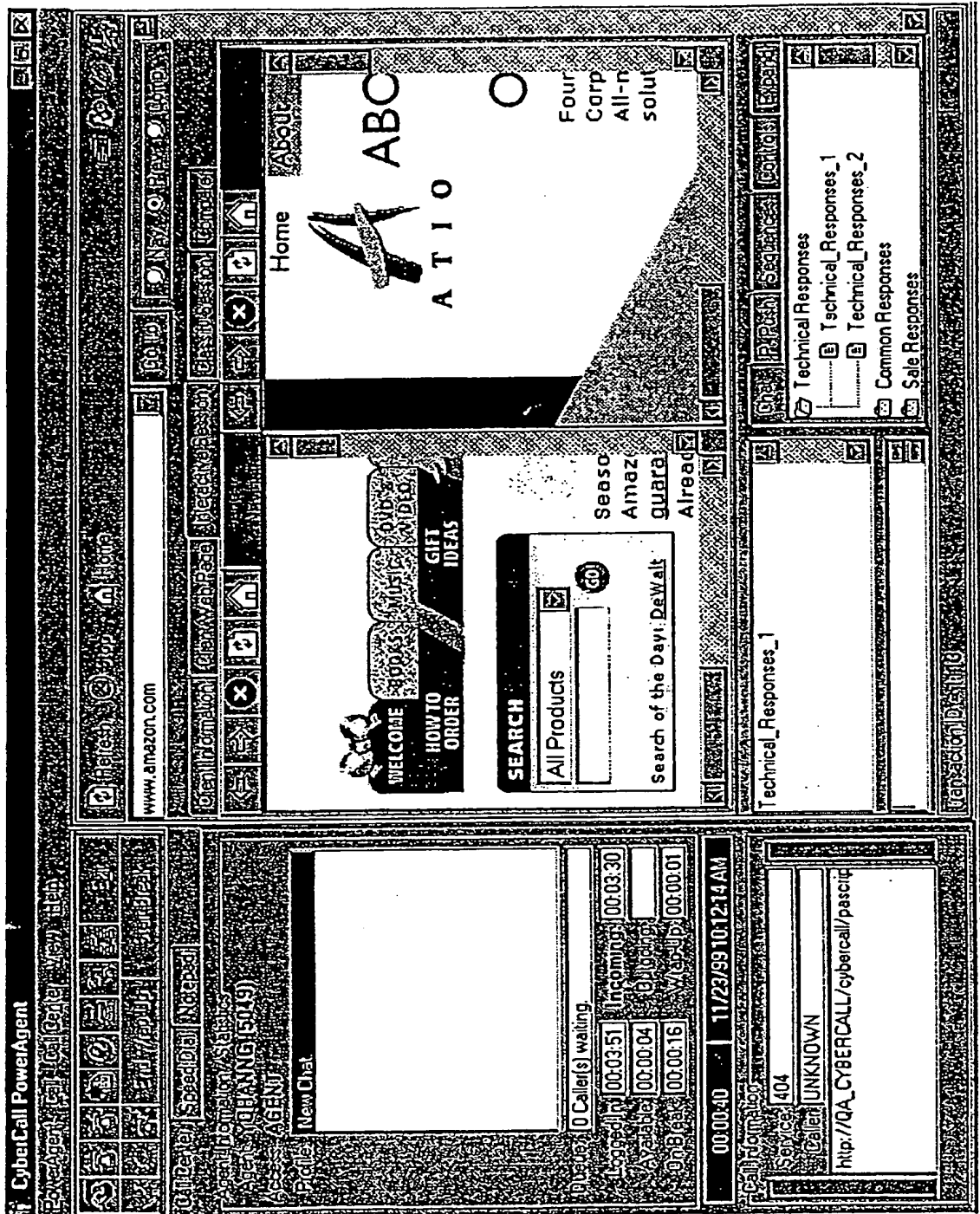


Fig. 7A

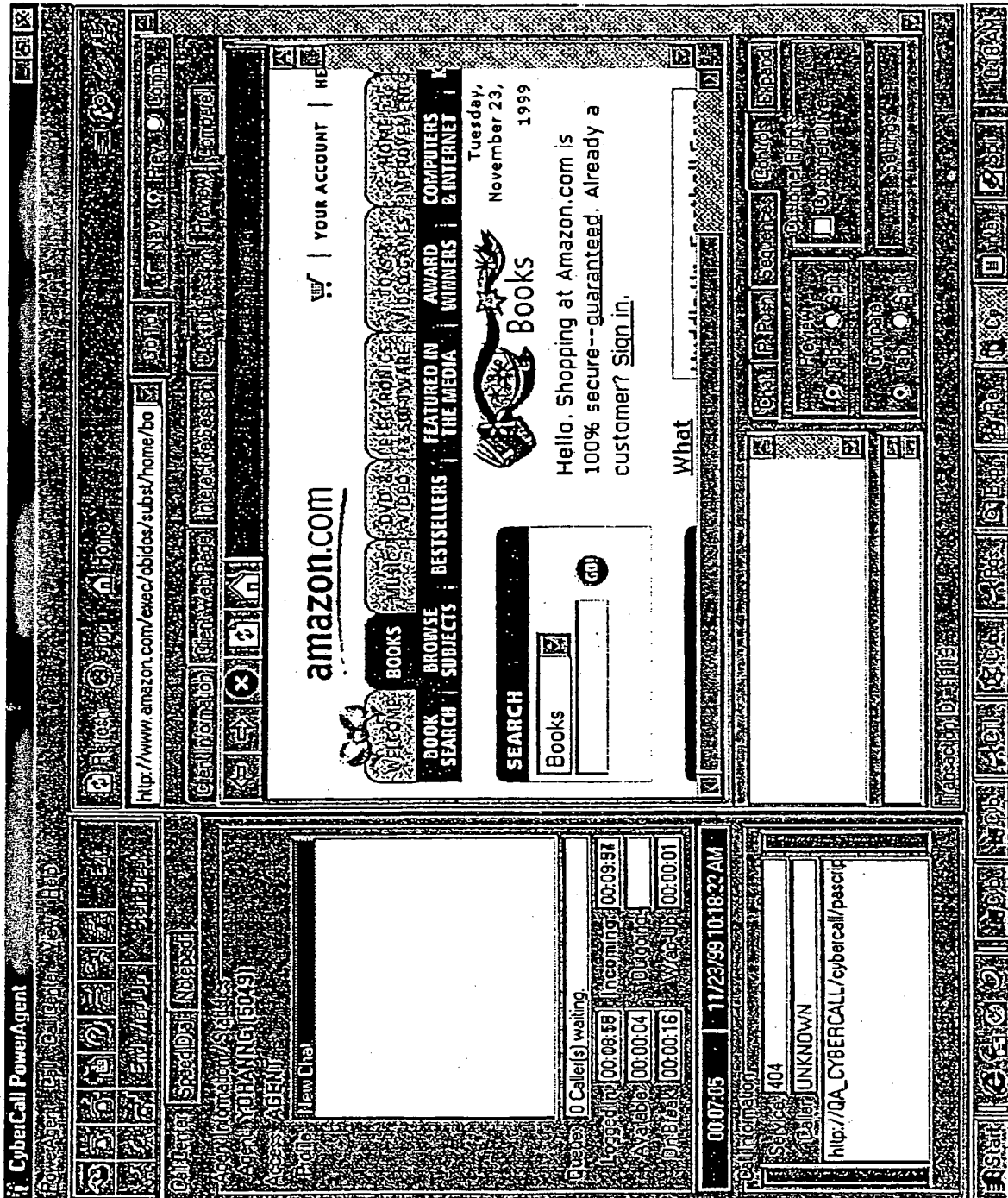


Fig. 7B

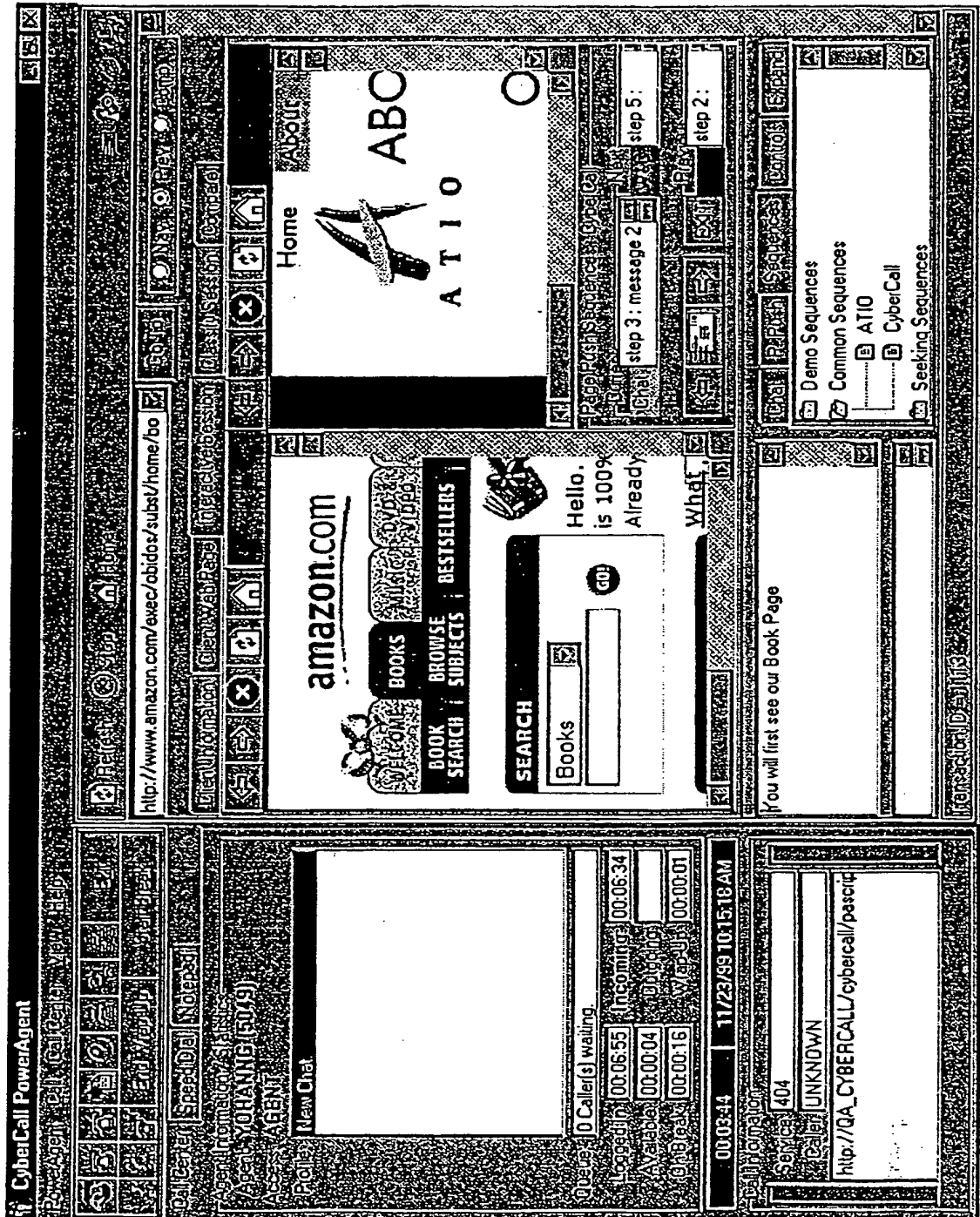


Fig. 7C

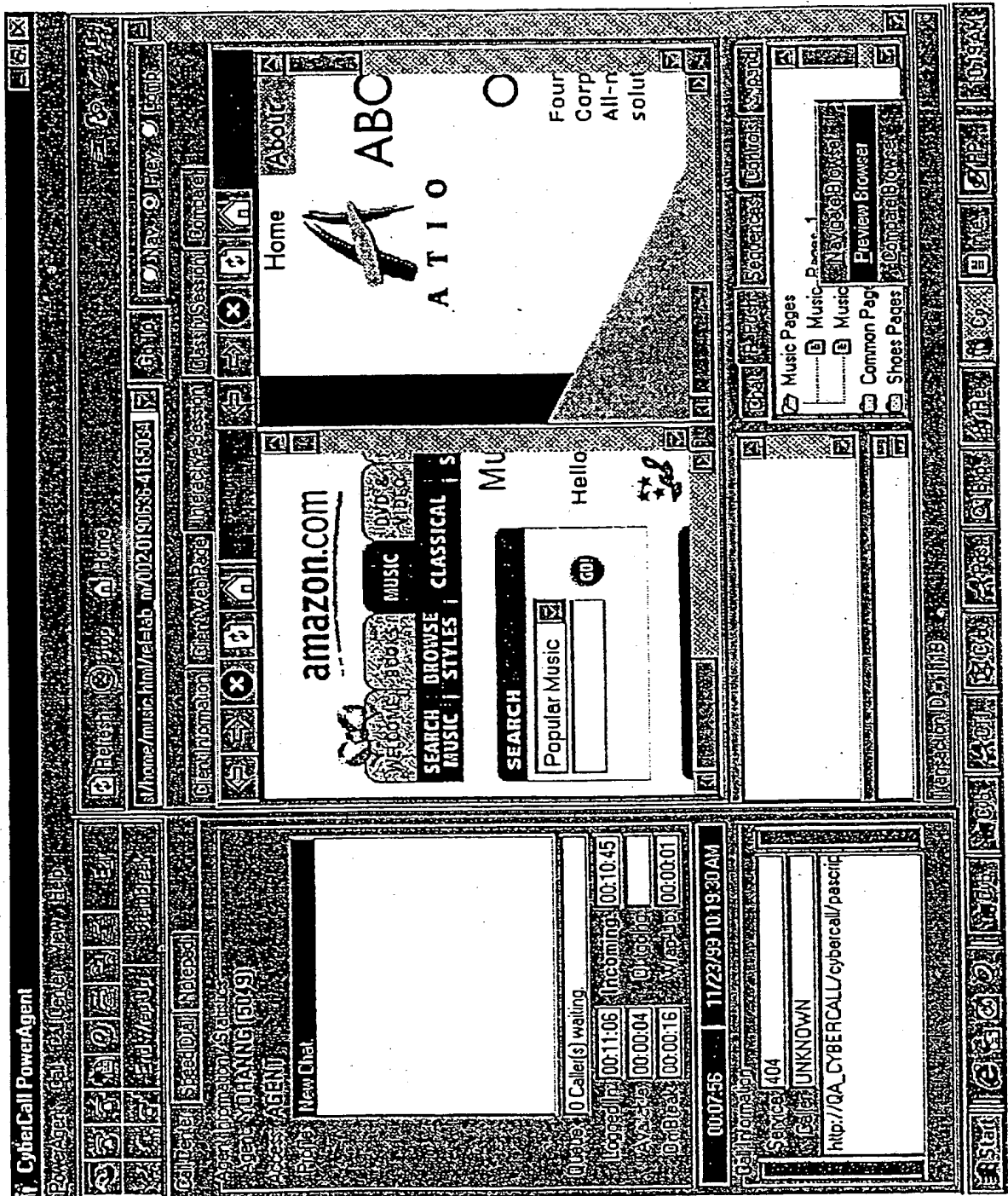


Fig. 7D

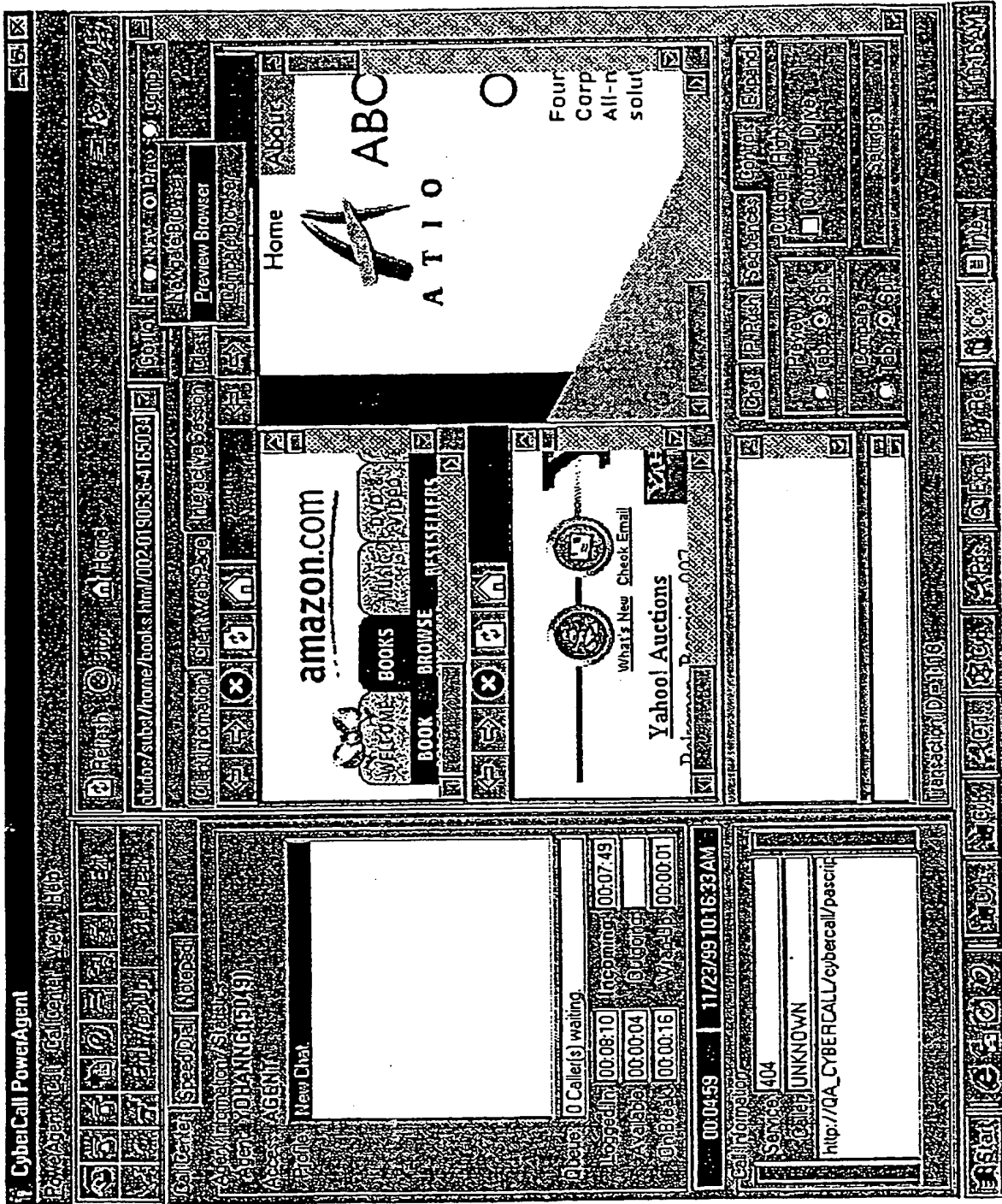
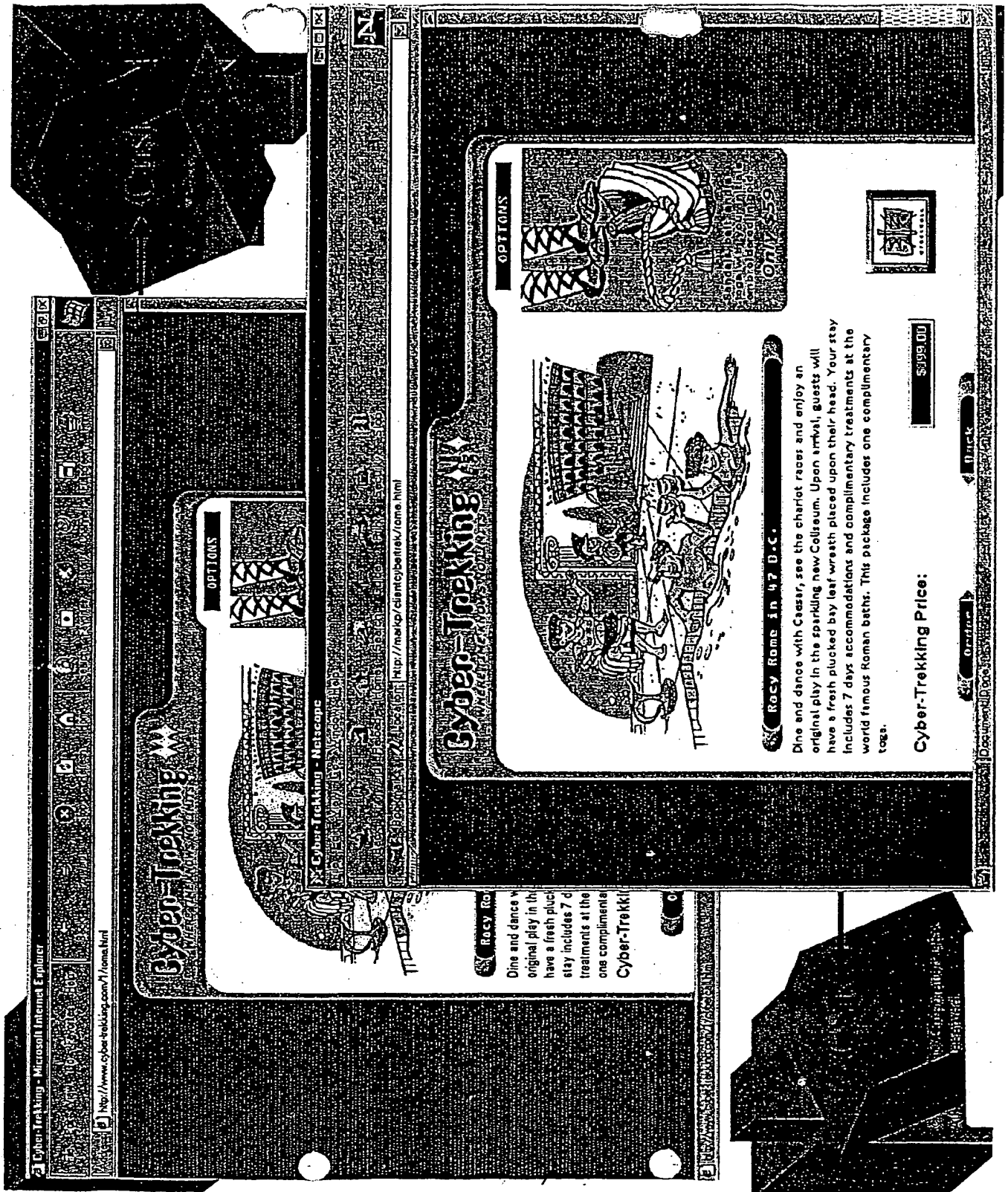


Fig. 7E



CyberCall PowerAgent

AGENTS (4/75)
AGENT

E-Mail
Internet Voice
Voice Messaging
Fax
Expo 1 Exclusive Services

1 Call(s) waiting
00:11:10 (recommended) 00:02:25
00:43:24 00:00:16
00:23:05

00:01:30 4/23/93 2:14:54 PM

191
Inbound Fax

HTTP://www.cyber-trekking.com/cyber
HTTP://www.cyber-trekking.com/cyber
HTTP://www.cyber-trekking.com/cyber
http://www.cyber-trekking.com/cyber

Information Fax

Name: Joan Deer

Order: Exotic Egypt

E-mail routing
(CyberCall Web Module)

www.cyber-trekking.com for Station 3
Allen1-3@cyber-trekking.com
Allen2@cyber-trekking.com for Station 1
Allen3@cyber-trekking.com for Station 2
Allen4@cyber-trekking.com for Station 3

Yes, I'd like to reserve a seat for...

- ☐ Rare Rome in 47 BC, including dinner with Caesar, only \$499
- ☒ Exotic Egypt to SI BC, a cruise on Cleopatra's barge, only \$049
- ☐ Blue Cheese on the Moon, in 1968, only \$1999
- ☐ All-Inclusive tropical vacation on Mars in 2100 AD, only \$599

Name: Joan Deer

Telephone number: 212-975-1000

Fax number: 212-975-1230

Credit card number: 540 210 90 0390

Expiration date: 01-01

Cyber-Trekking powered by CyberCall from ATID Corporation - www.atid.com - 612.837.4888

Fig. 8A

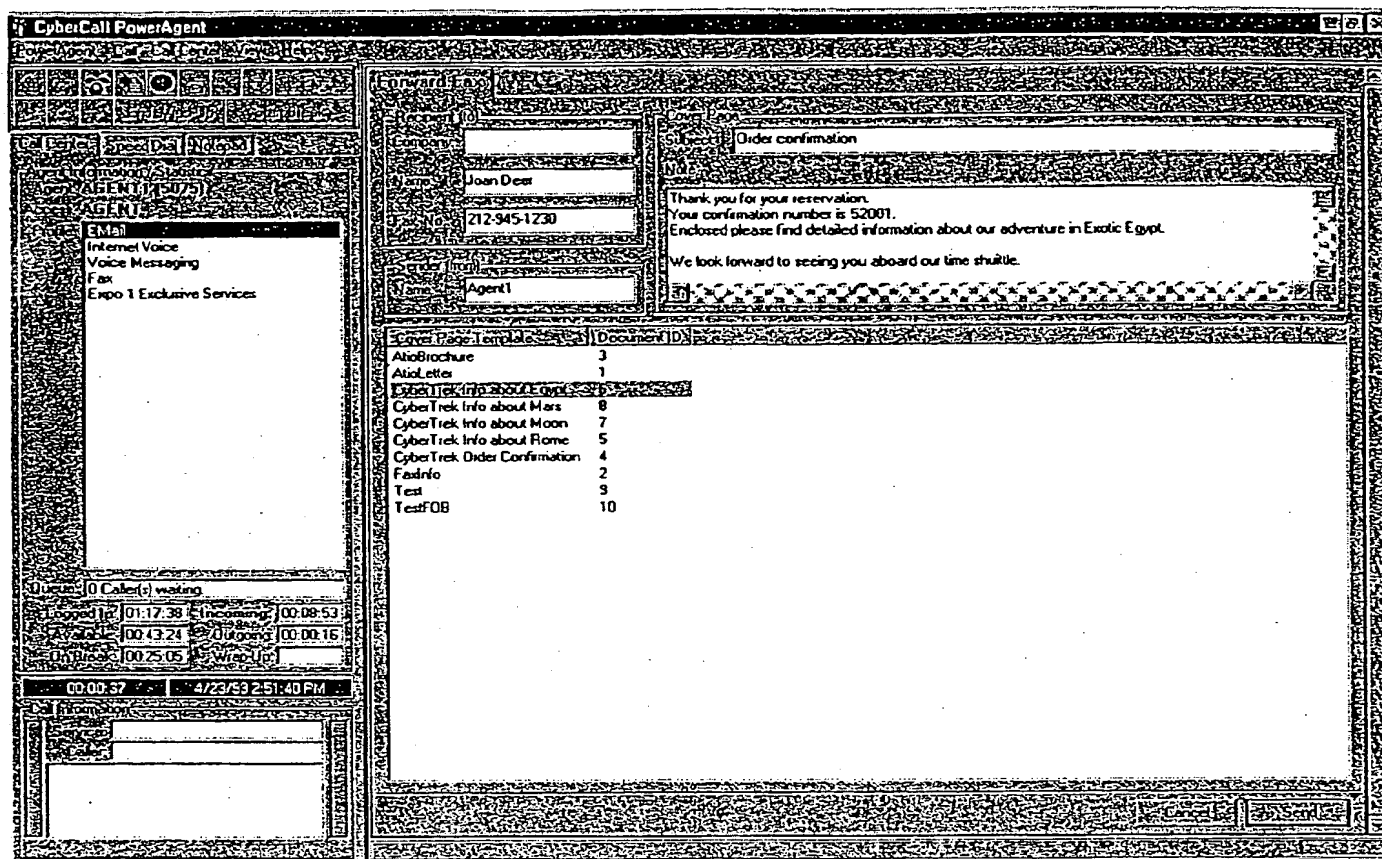


Fig. 8B

	Skill 1	Skill 2	Skill N-1	Skill N
Customer Service Agent 1	Y	N	N	Y
Customer Service Agent 2	Y	Y	Y	Y
Customer Service Agent 3	N	N	Y	N
...
Customer Service Agent N-1	N	N	N	Y
Customer Service Agent N	Y	N	Y	N

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Fig. 9

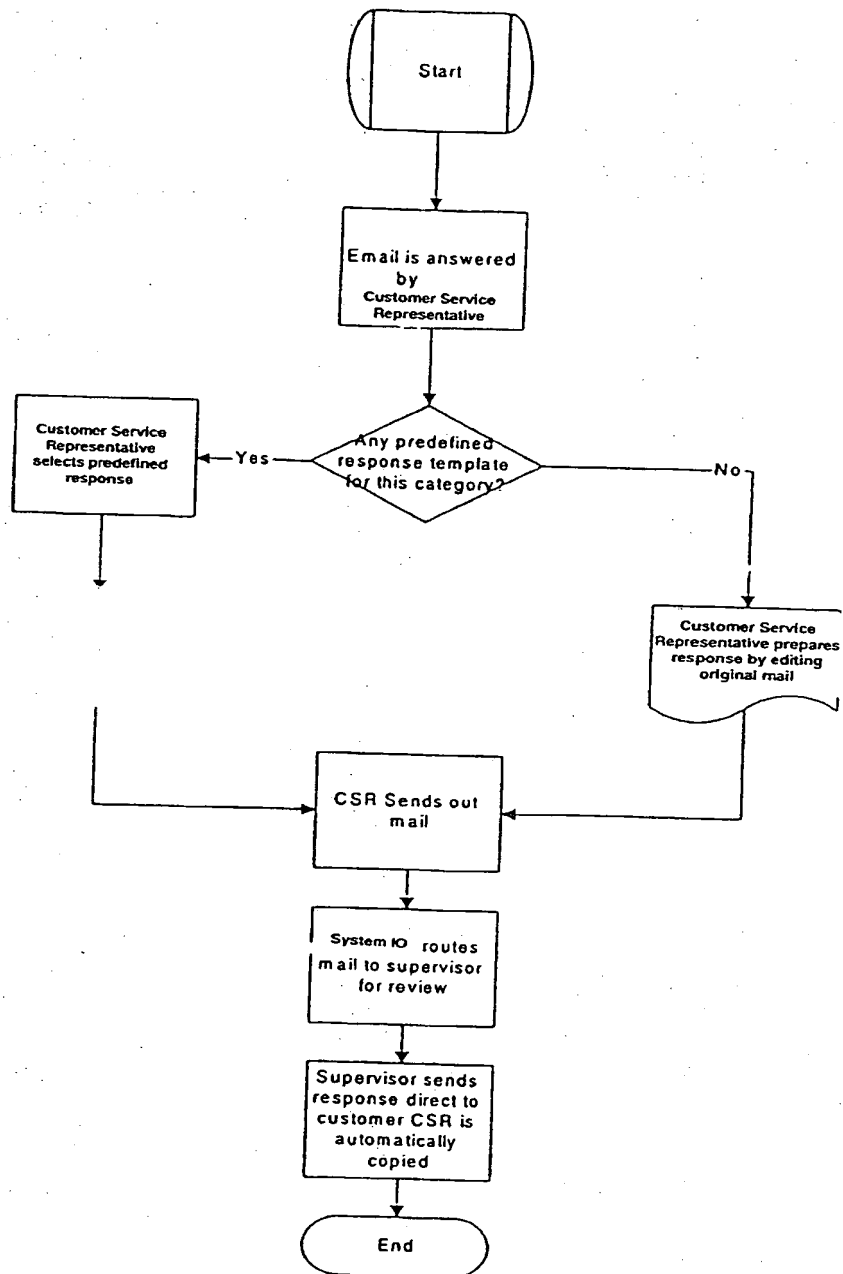


Fig. 10

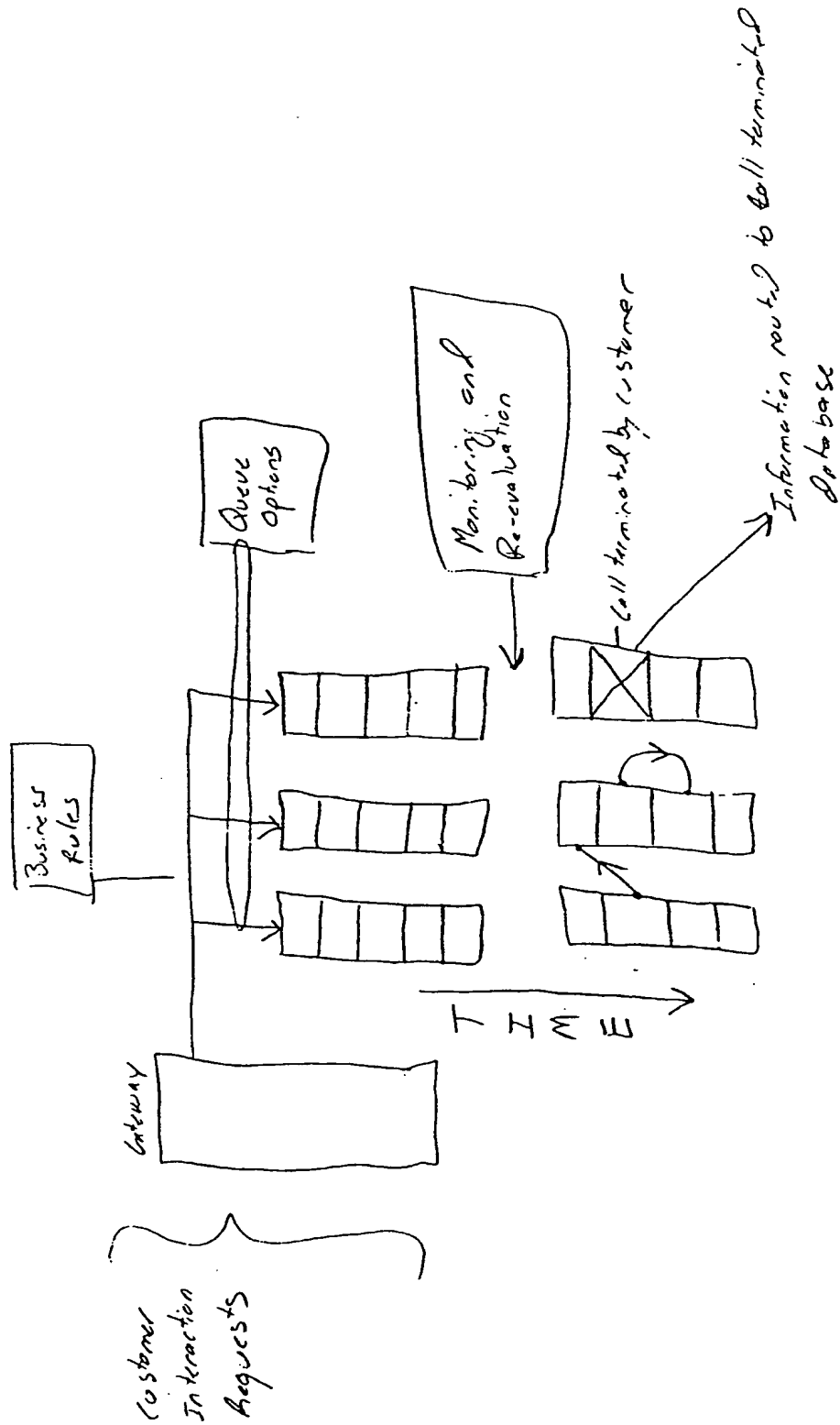


Fig. 11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/32601

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : Please See Extra Sheet.

US CL : 709/203, 205, 206, 219, 224, 240; 705/1, 26, 27; 707/1, 10, 104

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 709/203, 205, 206, 219, 224, 240; 705/1, 26, 27; 707/1, 10, 104

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y, P	US 6,134,530 A (BUNTING et al) 17 OCTOBER 2000, FIG. 3, ITEM 392, FIG. 5, FIG. 6 ITEMS 602-632, FIG. 15, COL. 4, LINES 12-67, COL. 5, LINES 1-20, COL. 6, LINES 15-67, COL. 4-67, COL. 8, LINES 1-55, COL. 9, LINES 59-67, COL. 10, LINES 1-67, COL. 14, LINES 6-67,	1-45
Y	US 5,696,809 A (VOIT) 09 DECEMBER 1997, FIGS. 6-20, COL. 8, LINES 5-67, COL. 9, LINES 1-65, COL. 12, LINES 1-67, COL. 13, LINES 59-67, COL. 14, LINES 1-65, COL. 15, LINES 1-50, COL. 16, LINES 46-67, COL. 17, LINES 1-26.	6, 10, 11, 12-23, 28-43

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

16 APRIL 2001

Date of mailing of the international search report

02 MAY 2001

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/32601

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,771,354 A (CRAWFORD) 23 JUNE 1998, FIGS. 3, 4, 6E, 19A, COL. 2, LINES 5-67, COL. 3, LINES 1-11, COL. 8, LINES 65-67, COL. 9, LINES 1-67, COL. 10, LINES 1-45, COL. 14, LINES 15-67, COL. 15, LINES 1-56, COL. 45, LINES 36-67, COL. 46, LINES 1-67.	6, 10, 11, 13, 14-23, 25, 28-43
Y	US 5,687,212 A (KINSER, JR. et al) 11 NOVEMBER 1997, FIGURE 15, 19, 21, 22, 26A, 33, 34, COL. 51, LINES 1-67	1-44
A, P	US 6,014,651 A (CRAWFORD) 11 JANUARY 2000, ABSTRACT	1

Form PCT/ISA/210 (continuation of second sheet) (July 1998)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/32601

A. CLASSIFICATION OF SUBJECT MATTER:

IPC (7):

G06F 15/16

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

EAST, DIALOG, INTERNET, WEST

search terms: customer, requests, rules, interaction, service, customer service, representative, priority, queue, evaluate, monitor, business, e commerce, e business, order

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